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Mr. Chairman,
Mr. Speaker,

1285A, 2

PRESIDENT OF THE UNITED STATES

1285A, 2

HOUSE OF REPRESENTATIVES

STATEMENT OF THE SECOND SESSION

THE THIRTY-THIRD CONGRESS

At the close of the session, and referred to be printed with the accompanying documents,
and the 1285A, 2, which is printed for the use of the House.

PART II.

WASHINGTON

UNITED STATES GOVERNMENT
1914

MESSAGE

FROM THE

PRESIDENT OF THE UNITED STATES

TO THE

TWO HOUSES OF CONGRESS,

AT THE

COMMENCEMENT OF THE SECOND SESSION

OF

THE THIRTY-THIRD CONGRESS.

DECEMBER 4, 1854.—Read, and ordered to be printed with the accompanying documents,
and that 10,000 extra copies be printed for the use of the Senate.

PART II.

WASHINGTON:
BEVERLEY TUCKER, SENATE PRINTER.
1854.

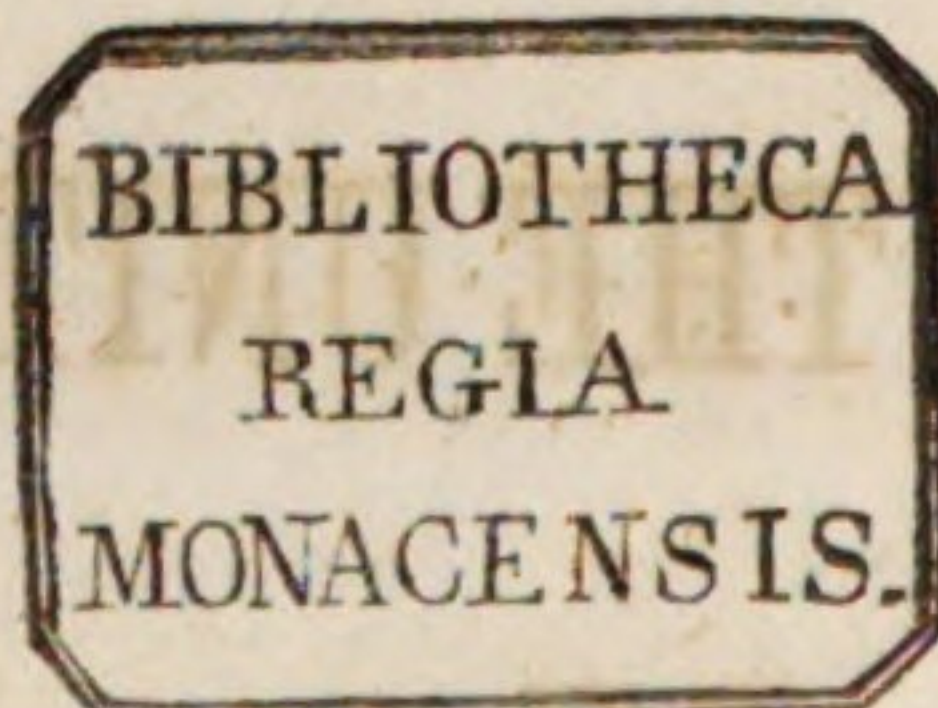
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No. 1.

SENATE

32d Congress,
2d Session.

MESSAGE

FROM THE



TWO HOUSES OF CONGRESS,

AT THE

COMMENCEMENT OF THE SECOND SESSION

OF

THE THIRTY-THIRD CONGRESS.

Documents & 1871—Identical, and ordered to be printed with the accompanying documents,
and that 10,000 copies be printed for the use of the Senate.

PART II.

WASHINGTON:
GOVERNMENT PRINTING OFFICE:
1872.

REPORT OF THE SECRETARY OF WAR.

WAR DEPARTMENT, *December 4, 1854.*

SIR: I have the honor to submit the following report of the operations of the army for the past year; and to lay before you the reports of the Commanding General, and of the heads of the several bureaus of the War Department.

The authorized strength of the army (as now posted) is 14,216 officers and men, but the accompanying tables, prepared in the Adjutant General's office, show that at the date of the last returns, the actual strength was only 10,745. This difference, however, between the authorized and actual strength of the army is fast disappearing under the operation of the law of the 4th of August last, "to increase the pay of the rank and file of the army, and to encourage enlistments."

The general distribution of the army is nearly the same as shown in my last report. The most important changes will be briefly noticed. The 3d artillery has been reorganized since the wreck of the steamer *San Francisco*, and six companies sent to the Pacific, *via* the Isthmus of Panama. Two of the companies of that regiment and a detachment of recruits for companies of dragoons serving in the department of the Pacific, have been sent by the overland route, for the purpose of exercising a salutary influence over the Indians inhabiting the country through which they will pass, and holding to account the tribe implicated in the massacre of Captain Gunnison's party. They will winter in the Great Salt Lake Valley, and proceed to their destination in the spring. Six companies of the 2d infantry have been reorganized, and are now posted in the Department of the West. The remaining companies of that regiment will be sent to the same department as soon as their organization is completed. The 6th infantry has been ordered to the Department of the Pacific. Six companies of the regiment are concentrated at Jefferson barracks, preparatory to sailing for the Pacific, by way of the Isthmus, and two others, which were also under orders for Jefferson barracks, have been sent to Fort Laramie in consequence of the difficulties that recently occurred in that vicinity. The remaining companies now at Forts Kearney and Laramie will be sent to their destination next spring, by the overland route, if a continuation of the Indian difficulties in that quarter should not interfere with this intention. The headquarters and two companies of the 1st dragoons have been transferred to the Department of New Mexico, and replaced in the Department of the West by four companies of the 2d dragoons from New Mexico. The troops on the Indian frontier of Florida have recently been reinforced by two companies of artillery, drawn from the Atlantic coast. Some other changes of minor importance have also been made with a view of effecting a greater concentration of the troops.

The removal from Florida of the remnant of the Seminole tribe, who, in violation of treaty, have continued to occupy the southern part of that State, has received the constant attention of the department; but, from peculiar circumstances, the efforts directed to this object have been attended with but little success. It is, however, believed that better results may be anticipated in the ensuing year. The troops have taken a line of observation which greatly contracts the limits of the territory occupied by the Indians; and it is proposed to make expeditions through the region where they have hitherto remained securely concealed. By opening roads, and by the use of boats adapted to the navigation of the lakes, swamps, and bayous, which have heretofore enabled them to elude pursuit, (including a small steamer, as recommended by the Quartermaster General,) the department expects to acquire an accurate knowledge of the country, and to impress them with the conviction of their inability to escape from or resist the power of the United States. Measures have been taken to cut off their trade, and to make them feel the great inconvenience which will attend an attitude of defiance on their part towards this government. By these means it is hoped the Indians may be peaceably removed to the home provided for them west of the Mississippi, and the claim of Florida to be relieved from their presence be speedily answered. Should this hope not be fulfilled, the measures above referred to are the proper and most efficient steps preliminary to active operations for their removal by force.

In the other military departments the Indians have repeatedly come into collision with our troops. Depredations upon our frontier inhabitants and upon emigrants passing through the Indian country have been, and are still, of frequent occurrence. In the Department of the West, besides the depredations committed by smaller tribes, hostilities have occurred with the Sioux Indians, the most powerful and warlike tribe of the Northwest. In Texas they have been so frequent and of so threatening a character that it was considered necessary to authorize the commander of that department to call upon the governor of the State, from time to time, as exigencies might arise, for such volunteer force as might be required to repel Indian incursions. In New Mexico serious hostilities were repressed by the prompt and energetic action of the troops employed there, but depredations upon the inhabitants are still of occasional occurrence; and in the Department of the Pacific outrages of the most revolting character have recently been perpetrated on parties of emigrants on their way to California and Oregon. To repress such disorders, the troops have been actively and constantly employed; and in the arduous and harassing duties that have devolved on them, have exhibited a gallantry, zeal, and devotion that merit the favorable notice of the government. The details of these operations will be found in the reports transmitted herewith.

During the past year the Sioux Indians have committed many depredations upon the property of the emigrants passing Fort Laramie, on their route to Oregon and Utah. On the 19th of August Lieutenant Grattan, of the 6th infantry, was sent, by the commander of that post with thirty men to arrest an offender. This entire detachment was massacred by the Indians, with the exception of one man, who escaped

severely wounded, and subsequently died. The circumstances of this affair were at first involved in much obscurity, but authentic details have since proved that the massacre was the result of a deliberately formed plan, prompted by a knowledge of the weakness of the garrison at Fort Laramie, and by the temptation to plunder the large quantity of public and private stores accumulated at and near that post. The number of the Indians engaged in this affair was between 1,500 and 2,000.

I regret that it has not been in the power of the department to concentrate the troops in sufficient force to prevent and, in all cases, to punish these disorders. The circumstances of the service have been such, and the want of troops in all sections of the country so great, that the concentration would have exposed portions of the frontier to Indian hostilities without any protection whatever. Every favorable opportunity will be taken to post the troops in commanding positions, from which they can exercise a supervision of the Indian country, and operate to the best advantage. The events of the past year have furnished many examples of the inefficiency of small posts. Our entire loss in the several actions with the Indians during the year has been four officers and sixty-three men killed, and four officers and forty-two men wounded.

While the occurrences on our frontier and in the Indian territory present gratifying evidences of the zeal and devotion of the troops, they also furnish deplorable proofs of the insufficiency of our military force, and the absolute necessity of the increase which it was my duty to urge in my last annual report. I again solicit attention to this subject, and in doing so must repeat, to some extent, what was then urged.

For military purposes, the territory of the United States is divided into five geographical commands.

1. *The Department of the East*, embracing all the country east of the Mississippi river. This department has 2,800 miles of sea-board, 1,800 miles of foreign, and about 200 miles of Indian frontier. Of the fifty permanent fortifications and barracks on the lake, Atlantic, and gulf coasts, now completed, or nearly so, and requiring garrisons to protect the ports, cities, and national establishments which they cover, only eleven are now garrisoned, leaving the remainder exposed to a sudden or unexpected attack from any naval power. The total force in this department at the date of the last returns was only 1,574 officers and men; and of this number 500 are employed on the Indian frontier of Florida.

2. *The Department of the West* includes the country between the Mississippi river and the Rocky mountains, except the departments of Texas and New Mexico. It has a sea-board, foreign, and Indian frontier of 2,400 miles; 2,000 miles of routes through the Indian country constantly traversed by emigrants on their way to Utah, New Mexico, and our possessions on the Pacific, and an Indian population of 180,000, a large proportion of whom are, in feeling, hostile to us, and many of them at this time actively so. The total force in the department at the date of the last returns was 1,855 officers and men.

3. *The Department of Texas*, nearly the whole of that State, has a seaboard frontier not yet protected by fortifications of 400 miles, a foreign and Indian frontier of nearly 2,000 miles, and communications

through the Indian country of more than 1,200 miles. The Indian population is estimated at 30,000, nearly all of whom are nomadic and predatory; and the western and northern frontiers of the State are exposed to constant inroads from the Indians of Mexico and the plains. The force in that department at the date of the last returns was 2,886 officers and men.

4. *The Department of New Mexico.*—This department has an Indian and foreign frontier of 1,500 miles, communications through the Indian country of more than a thousand miles, and an Indian population of 50,000, a great proportion of whom are bands who do not acknowledge the authority of the United States. The force in this department, at the date of the last returns, was 1,654 officers and men.

5. *The Department of the Pacific*, embracing the State of California and the Territories of Oregon, Washington, and Utah, and a part of the Territory of New Mexico. This department has a sea-board frontier of 1,500 miles, entirely unprotected by fortifications, except the works in progress at San Francisco, an Indian and foreign frontier of 1,600 miles, and more than 2,000 miles of communications through the Indian country; an Indian population of 134,000, who are becoming formidable from concentration, from the acquisition of fire-arms and a knowledge of their use. The force in this department is only 1,365 officers and men, but as heretofore mentioned, they will be increased by an additional regiment ordered there.

To recapitulate. We have a sea-board and foreign frontier of more than 10,000 miles, an Indian frontier, and routes through the Indian country, requiring constant protection, of more than 8000 miles, and an Indian population of more than 400,000, of whom, probably, one-half, or 40,000 warriors, are inimical, and only wait the opportunity to become active enemies. If our army should be expanded to its greatest limit, it would have a force of 14,731 officers and men; but as a large allowance must always be made for absentees, invalids, &c., the effective force would probably never exceed 11,000.

That this force is entirely inadequate to the purposes for which we maintain any standing army needs no demonstration, and I take occasion again to urge the necessity of such immediate increase as will at least give some degree of security to our Indian frontier. That, for this purpose, a regular force is not only the efficient and cheap, but the proper and constitutional means, seems to me demonstrable, if not obvious. The President is authorized to call out the militia to repel invasion and suppress insurrection. These are the emergencies for which it was deemed proper to confer upon the Executive the power to call citizens from their homes and ordinary avocations, and these are the great occasions on which they may be justly expected to make all the personal sacrifices which the safety of the country may require. It is in this view that we habitually and securely look to the militia as our reliance for national defence. It was not the design of the constitution and laws to enable the President to raise and maintain a standing army, yet this would be the practical effect of a power, at his discretion, to call the militia into service, and employ them for the ordinary duty of preserving order in the Indian territory. The abuse to which such a power, if it were possessed, would be subject, sufficiently attests the

wisdom of our forefathers in not conferring it, and must remove far from us any desire to possess it. If this view of the subject be correct, it follows that the Executive must look to the army regularly authorized by law to preserve police among the Indian tribes, and to give that protection to pioneer settlements which interest, humanity, and duty alike demand. The organization of the two new territories, and the impulse given thereby to emigration towards the western frontier, and the increase in the overland trains to our Pacific possessions, have multiplied the opportunities as well as the causes of Indian depredations and hostilities. It is reasonable to expect that the ensuing year will be marked by more numerous and serious Indian outrages than the last or any preceding year.

Our border settlements, extending from the Missouri westward, and from the Pacific ocean eastward, are steadily pressing the savage tribes into narrower limits and an unproductive region, from which result combinations of bands heretofore separated from each other, producing at the same time, by their concentration, an increase of power and a diminution of their ability to live by the precarious products of the chase. Hence, a two-fold necessity for an increase of our military force.

The question of economy in the employment of the means for this purpose has been frequently and fully discussed. It may not, however, be without benefit to advert to some instructive facts in our past experience of Indian wars.

The expenses occasioned by the war with the Sac and Fox Indians, in 1832, amounted to more than three millions of dollars; the definite appropriations for the suppression of Indian hostilities from 1836 to 1841, inclusive, amounted to more than eighteen millions of dollars. Within the past six years, large appropriations have been made for the same object in Texas, New Mexico, Utah, California, and Oregon. The aggregate of such expenditures in the last twenty-two years, independent of the regular appropriations for the support of the army, is estimated at more than thirty millions of dollars, a sum sufficient to have maintained, for the whole period, a much greater force than that recommended in my report of last year. This sum is independent of the expenditures for property destroyed, compensation to suffering inhabitants, and on account of pensions and bounty lands, and of course does not include the losses occasioned by the destruction of private property nor those consequent upon the interruption of agriculture and of the progress of settlement. These cannot be measured by any specific sum, and, although private in their character, are not limited in their effects to individuals, but, by diminishing the resources of the country, become public losses, and, as such, are widely felt.

It has been stated by those conversant with all the facts, that if in 1831 a small mounted force had been at the disposal of the War Department, the Black Hawk war might have been prevented; and that in 1835, if a few additional companies had been sent to Florida, the Seminole war would not have occurred.

The state of the recruiting service is shown by the report of the Adjutant General and the accompanying tables. Since the passage of the

law of August 4, 1854, to encourage enlistments, that service has progressed very satisfactorily, both as regards the number and character of the men enlisted. In the months of September and October last, 1,005 enlistments were made, while in the corresponding months of 1853, the number was only 309. In consequence of the number of companies that have been placed on the maximum establishment under the law of June 17, 1850, the little success that attended the recruiting service prior to the passage of the law above cited, and the greater than usual number of casualties that have occurred during the past year, the number of recruits that will be required for the service for the ensuing year will probably not be less than 6,000.

The estimates for the support of the army during the next fiscal year exceed those submitted at the last session, for the current year, by the sum of \$681,668 39. The increase is to be found in the items for the pay of the rank and file at the higher rates fixed at the last session of Congress, and for recruiting, clothing, and subsisting the better filled ranks of the army. In other items there is a decrease, so that, leaving out of view the pay of the army, which, being fixed by law, this department can in no way increase or diminish, the expense of keeping the army in active service, with its ranks thus increased, during the next fiscal year, will not, according to the estimates, exceed that of the current year. The item of transportation, one of the heaviest expenses, is not increased, and is, therefore, relatively less than that for the current year: thus verifying the expectation stated in the last annual report, that an increase of the army would not be attended with a proportionate increase of expense. In fact, an undue expense in proportion to numbers always results from not keeping on foot a sufficient force. If the force is too small for the line it protects, it must be kept moving. The result is that stated in the Quartermaster General's report. The cost of transportation comes upon the war scale, as for armies in the field.

The means of transportation have, in some instances, been improved, and it is hoped further developments and improvements will still diminish this large item of our army expenditure. In this connexion, waiving other considerations, I again invite attention to the advantages to be anticipated from the use of camels and dromedaries for military and other purposes, and, for the reasons set forth in my last annual report, recommend that an appropriation be made to introduce a small number of the several varieties of this animal, to test their adaptation to our country.

I think it but an act of justice to the officers of the army again to call attention to the recommendation made in my last annual report, relative to an increase of their pay. The present rates of pay were established more than forty years ago, when money had a much higher value, as measured by the price of food; even as late as 1845, the cost of the soldier's ration was 12½ cents, whilst the estimates of the Commissary General for the present year are based on the price of 25 cents for a ration. The necessaries of life generally have had a like, if not always an equal appreciation, and, under such circumstances, it would not be just that salaries should remain fixed, which were originally graduated to afford the means proper to the officer's support.

The justice of an advance in the salaries of public officers corresponding with the increased cost of the means of living, has been recognised by the government in the recent laws for increasing the compensation of most of those employed in the civil departments of the public service. These considerations apply with greater force to the case of officers of the army, many of whom are compelled, by the nature of their duties to reside in parts of the country where even scanty supplies can be obtained only at exorbitant prices.

If it were deemed necessary to offer other considerations than those of justice and equality, many would present themselves appealing alike to the pride, the liberality, and the gratitude of the American people, to sustain a proposition which only seeks to relieve the military officers of a discrimination alike onerous and wounding.

It can require but little reflection to convince any one that a policy which confines so large a body of intelligent and instructed men to a rate of compensation below that given in the ordinary avocations of life, must tend to drive from the military service its more active and efficient officers. If, as I doubt not, there will be many honorable exceptions to this general proposition, resulting from strong professional attachment to the army, they are exactly such exceptions as would claim increased consideration from every one who can estimate the patriotism and elevation which should characterize the officer to whom the honor and flag of his country is entrusted.

In the law of the last session of Congress to increase the pay of the rank and file of the army, the terms used to designate the grades of enlisted men are construed to exclude those of the Ordnance department. As this exclusion is supposed to be accidental and unintentional, it is suggested that an explanatory act should be passed to extend the increase of pay to all enlisted men of the army. The pay of ordnance laborers and mechanics would still be much below the ordinary wages of such employments.

I would again call attention to the propriety of additional legislation which shall place the widows and orphans of the officers and soldiers of the army on an equality with those of the officers and sailors of the navy. The subject has been repeatedly recommended by the Commanding General of the army, and it is again brought to notice in his report of this year.

In some important particulars, our military legislation, in regard to rank and command as well as to organization, needs revision. In armies, it is essential that it should be known, under all possible circumstances, who is the officer entitled to command. Doubt as to the source from which orders are to emanate, is destructive of discipline and subordination, and might, on many occasions, compromise the safety of troops. On this important point our military law is exceedingly vague and defective. Much of the mischief that otherwise would have resulted, has been prevented by the care of the department in keeping asunder officers whose claims would come in conflict, and by the patriotic self-denial of the officers themselves who, in many instances, have waived claims to command which they believed to be well founded, and served under those whom they considered as their juniors. Nevertheless, many unseemly controversies have arisen, en-

gendering jealousy, rancor, and insubordination; and the decisions in such cases, so far from putting at rest the questions involved, present a mass of conflicting arguments, from which no general principle can be educed, and which serve only to furnish to every disputant the means of maintaining his own cause. So numerous and contradictory have been the decisions of the highest authority on questions of rank, that no executive regulation or judgment of a court-martial could now establish any certain rule, or fix the interpretation of the law; for either of these would be met by as high authority for a contrary doctrine, and would probably be, in turn, overruled. Congress only can apply the remedy; and whatever rule they may, in their wisdom adopt, should be simple in its terms, and universal in its application.

One fruitful source of difficulty arises from double rank. In our service, as in the English, an officer may have one grade by brevet in the army, or at large, and another in a particular regiment or corps. The law has attempted to define the cases in which one or the other of these commissions shall take effect, and it is to the defective and insufficient manner in which this is done, that much of the confusion above alluded to is due. The statutory provision on the subject is copied from the English. Even in their service it has proved a source of much trouble; and, as in ours, there is a class of commissions not known to theirs—commissions in the army at large, not by brevet—the interpretation of the law is further embarrassed by the necessity of applying it to a class of cases for which it was not intended.

To remove this cause of difficulty, some have proposed to abolish brevet rank altogether, but there are many strong reasons against this course. Brevet rank affords an honorable incentive and reward to distinguished conduct, and enables the government to avail itself of the services and abilities of meritorious officers in higher commands than they would be entitled to exercise by their ordinary rank. It is true, indeed, that these arguments lose much of their force and application, if the system of brevet promotion is not discreetly and justly administered, and that the system itself produces a shifting of rank dangerous to discipline and military authority. The main benefit of the system is in affording selections for command, but the present law gives brevet rank effect in all detachments composed of different corps, and selection is as much restrained by this rule in favor of brevet rank as by the rule in favor of ordinary commissions. To avoid the evils without forfeiting the benefits of the system, it is proposed to give effect to brevet rank only when the President may see fit to authorize it. As these commissions are designed only to take occasional effect, there seems to be a propriety in requiring his sanction, either direct or delegated, as constitutional commander-in-chief of the army, to give them effect. A further limitation, however, should be put on them. As they are not intended, and ought not to be allowed, to advance an officer in his own corps over his proper seniors, the exercise of them ought to be forbidden, as it now is, in the regiment, troop, or company where the officer belongs and is mustered.

A difficulty of still greater magnitude is found in the enactments intended to regulate rank and command when different regiments and corps do duty together. The general provision is, that the command

shall devolve upon the officer highest in rank "in the line of the army," but these words were new in that connexion, and of undefined signification, and it cannot be determined whether they were intended to include officers holding commissions by brevet, in the staff or in certain special corps. The interpretation that has prevailed in our service is, that they do not embrace any officers of the general staff, except the major general and the two brigadier generals; but this is not acquiesced in by many, and the question is still productive of frequent controversy, attended with all the evils which have been above enumerated.

I find much difficulty in proposing any general rule to govern in this particular such a military organization as ours. It is clearly improper to exclude from command, according to their rank, the officers of the military staff, whose duties are as important to the service as any other class of military duties below the chief command, and require equal general capacity, professional skill, and experience. This would, in effect, convert the military staff, so essential to an army, into a *quasi* civil corps. On the other hand, officers whose duties, being confined to a special corps, remove them from the ordinary service of troops, ought not to take, by seniority, the military command for which their special service has not qualified them.

This remark does not, indeed, now apply to all officers of the staff corps, in the higher grades of which are found many officers who, having long served with troops, and won distinction in battle, were transferred to the places they now hold. But the principle of promotion has been since applied to these corps, and under its operation their places must ultimately be filled by officers early separated from the general service, and thenceforth confined to a round of special duties. These difficulties can be obviated only by a change in the organization of the general staff itself; and I propose it with less reluctance, as I share the conviction entertained by officers of experience, that the organization is not well calculated for the duties of the staff itself. And I think that not only the efficiency of the staff, but the general good of the whole military service, would be promoted by some essential changes which I shall proceed to submit to your consideration.

Our military general staff, besides the major general and the two brigadier generals, who are habitually in command of troops, is composed of an Adjutant General's department, Inspectors General, a Quartermaster General's department, and a Commissariat of Subsistence. The officers of these departments, all of whom have military rank, form so many corps distinct from the rest of the army, with promotion confined to their own corps. The embarrassments in regard to rank and command, resulting from this arrangement, have been stated. But worse evils result from it in the ordinary staff service. In the first place, most of these staff duties require military knowledge only to be derived from general service and experience. In the second place, from various causes and accidents, errors may be made in the first selection; either the officers selected may not be qualified, or they may become disqualified for their special functions, and yet be fit for the general service. These are evils which the government should at all times be allowed the means of correcting. A good staff is so essential

to army operations that it is important to secure its constant efficiency. These are, to my mind, conclusive reasons why the staff should not be organized into permanent corps, and experience in the administration of the War Department has furnished many practical proofs of them. If the duties of the staff were performed by officers holding temporary appointments for such service, all the benefits might be secured of a large field of selection, at all times open, of general experience in the service, and of special qualifications for staff duties. The principal officers found particularly qualified for their special duties would naturally be retained. Those who might not be useful on the staff, would be replaced in their regiments. Either class not having been always confined to a staff corps would be qualified for such military duty or command as the course of service, according to their rank, might devolve upon them.

It has been stated that our organization is peculiar. A brief reference to some of the European systems may aid in illustrating the views hereinafter submitted of a well organized staff.

The French staff is divided into two branches, a military and a civil. The military has charge of all that relates to orders, movements, and military operations. The civil furnishes all the supplies of the army.

The officers who furnish the supplies have no rank. The military staff have rank, and succeed ordinarily to command by virtue of it. This military staff is composed of two classes of officers—the highest positions in it are filled by selection from the general officers of the army, so as to secure the best capacity and experience in the service. For the subordinate and more routine duties they have a special corps. But the functions of this corps are of much importance; and to supply it with fit officers, they have provided a special military school and a complete system of instruction in all its duties.

This system is simple, with many obvious merits. It brings all the military staff into one line and under one head. It secures the double benefit of experience in the general service and in the special duties of the corps. But it is a system only practicable in a large army. The permanent corps must be such as to afford a sufficient field of promotion. A small establishment does not allow of both selections and permanent appointments. Nor is the separate school and corps for the staff needed in our army, in which a large proportion of the officers are prepared for such duties by the complete course of studies at our Military Academy. This is an advantage which our service has over those services where the size of armies does not permit the education of officers by government, except for those corps in which it is indispensable, and has attracted the attention of foreign officers and writers.

Instead of one corps, to which all the military staff business is assigned, the English army has two principal military staff departments; the Adjutant General's and the Quartermaster General's. The chief officers of these are generals of the army, appointed temporarily on the staff; the inferior are appointed, in like manner, from the regiments. Neither class gain rank by these appointments.

The Adjutant General's is the department of military orders and regulations, of the recruiting of the army, and of all correspondence connected with the discipline and equipment of the troops.

The duties of the Quartermaster General's department relate to the marching, embarking, transportation, billeting, encamping and cantoning of the troops and the distribution of their quarters. It is the office of all correspondence relating to military science and topography, maps and plans.

Besides these military departments of the staff, is the Ordnance, which, though not strictly a staff department, and having many important functions not of the staff, yet provides many supplies for the army, and is charged with much of that part of its staff business.

Both these systems, it will be observed, avoid the mischiefs indicated as arising from corps organization like ours, limited to permanent officers. As to which is best where they differ—the English in dividing, the French in uniting, the military functions of the staff—there seems not much room for doubt, if the purely military business of the staff only were in question. The advantages gained by unity of responsibility and authority in military operations overbalance those of special experience and skill that arise from division of labor. But there are a mass of staff duties, not purely military, connected with army supplies and equipments. All these cannot be accumulated upon one military staff; and an organization which provides only a single military staff makes necessary the employment of other agents for supplies. But supplies are as essential as the movement of troops to the operations of an army. To separate the furnishing of army supplies from the other staff duties, is at last to destroy the unity of military administration in a point where it is always useful and sometimes necessary to preserve it. And to confide the supplies to civil agents, is to lose the control where it is so important to retain it, which commanders exercise over military officers. It was in his first great campaign to the frontiers of Russia that the Emperor Napoleon found the great utility of giving a military organization not only to his artillery trains, but also to the general equipage and transportation trains of his armies. The civil machinery of the French staff is now censured by some of their able military critics as too expensive and too much removed from military control. In these respects it is contrasted with the Prussian system, where every branch of the army administration is brought under military supervision and direction, to which is attributed that admirable efficiency and economy which enable Prussia to maintain so large an army in proportion to her revenue. In lieu of this control, the French system substitutes as a machinery of paper checks, a mass of writings and an amount of bureau labor, which have been justly condemned as hardly possible in war, and as really affording no efficient security for the fidelity and economy of the expenditures. In a comparison of the relative expense of the two systems, the French is stated at more than \$1,020,000 a year in salaries, and the Prussian at \$19,000.

It is not recommended to bring our military staff into one corps, or to incur the increased hazards and expense of a separate corps for supplies. On the contrary, it is thought that, without attempting so entire a revolution of the system to which we have been accustomed, a staff organization may be devised, which will avoid the evils of our present system, and will secure the benefits of the French and English systems, with others which neither of them affords. One principle,

however, should govern in any system that may be adopted—that of throwing open the appointments on the staff to selection from the officers of the army at large.

I proceed here to state, somewhat more in detail, the organization recommended.

We have now one major general commanding the army, and five other general officers commanding as such, by brevet or other commissions, the five geographical departments, and one brigadier general at the head of the Quartermaster's Department.

It is proposed that the brigadier generals shall be nine in number. This will give one for each department, as now; one for quartermaster general, as now; one for adjutant general, and two for the inspectors general, being an addition of three to those who now, by brevet or otherwise, have rank and command as brigadier general.

The duties of the adjutant general of the army are those which in other services, belong to the chief of the staff. It is obvious that he should have as high rank as any other member on the staff with him, and as the department commanders. Congress marked their sense of the duties of this office by a special act, allowing to the late Adjutant General the exercise of his rank of brigadier general.

Inspectors general must have different functions in war and peace. It is impossible for them, (and so the regulations of the French service explain the employment of these officers) to exercise their inspection functions with troops in actual campaign. There, the generals in command must take care of the condition of the troops. But, in peace, and with scattered garrisons, and in a service distributed like ours, the inspection service is highly important. By taking, in time of peace, inspectors from officers of the grade of generals, they will have a proper rank and authority for the inspection service when so employed. Their duties suggest the special reasons why the inspectors should not be commissioned permanently and solely for that service.

Besides the adjutant general of the army, there will be needed in this branch of the staff about seven officers, taken from the regiments and corps; one at the head quarters of the army, one at the office of the adjutant general, and one at each department or district headquarters. One of these would probably be available when any important detachment may be collected for actual service; or if others are needed with armies in the field, they may be authorized as occasion may require.

The ordinary service of the Quartermaster's department in regiments, posts, and detachments, should be performed by the detail of capable officers from the command. A limited number of experienced officers will be needed to perform the more important duties of the department with large commands, or at the principal stations, and to supervise and control, under the generals in command, the operations of the inferior officers in the parts of the country most remote from the seat of government, and from the direct authority of the Quartermaster General. Ten field officers would probably be sufficient at any time. It is doubted if so many would be always required. Selection and temporary appointments will regulate the number employed by the actual wants of the service.

At the head of the Subsistence department there should be a commissary general, taken from the field officers of the army, with the pay and allowances of colonel, as at present.

A few officers would be required for the principal stations and duties; but the ordinary business of the department, being mainly the care and issue of rations to the troops at posts, and with troops on the march, should be performed by proper officers detailed from the subalterns. The officers of this department should be charged with the supply of clothing for the army.

It may be proper again to advert to one effect of this plan of details; that in selecting a sufficient number of junior officers to perform the ordinary service of the staff in the field and in garrison, most of them still serve immediately with the troops, and will not cease to be instructed in regimental and field duties.

It is not proposed to disturb the present system as regards the pay of the troops and the hospital service. Hospital supplies may undoubtedly be best procured by the medical officers who administer them; and in this business no other agency is needed for economy or efficiency. To maintain a separate corps for the mere payment of the troops is an expense rather disproportioned to the strength of our army. But our troops are distributed over so great an extent of country, that the pay officers on the establishment seem to have sufficient employment. When troops are assembled in campaign, the paymasters might have additional duties imposed on them; as the care of the military chest, and the payment (as to some extent in other services) of money upon orders and warrants for other branches of the military administration.

Topographical services being included in the functions of the corps of engineers, and of officers of the general staff, it is not deemed expedient to retain a separate organization for the topographical corps. Engineers should be instructed by proper practice and employment in all the various and important duties of the engineer service; and that organization is very objectionable which makes a permanent distribution of duties which should be equally shared and practised by all, and appropriates a large portion of officers to one, and that, ordinarily, a less important portion of its services.

In this connexion it may be in place to remark, that as the duties of engineers require a continued study and experience of a special kind, they require a permanent body of officers. But no injury can result from entrusting the command of troops, according to their military rank, to officers whose functions, in the language of our articles of war, appertain "to the most elevated branch of military science." It is therefore recommended to give effect to the rank of engineers, as of other officers charged with military duties, in accordance with the rule which governs all other services.

The remarks relative to the specialty of the duties and studies of engineers, in some measure apply to those of officers of the ordnance. But advantage will be found in giving on the one hand to the officers of ordnance the benefit of a previous service with troops, and on the other hand in giving to the officers of troops the opportunity of acquiring useful practical information relative to the construction and preser-

vation of their arms and equipments. With this view it is recommended to retain in the ordnance corps only a small number of permanent officers for the more important arsenals and duties, and to associate with them, as assistants, junior officers, taken, by detail, from the regiments and corps.

The judge advocate's department has now only one permanent officer. Officers to officiate as judge advocates at courts martial, are appointed by the officers who order the courts. This duty requires legal study and experience, but it also requires a familiarity with military laws and the customs and regulations of the service. It is therefore proper that judge advocates should be appointed from military officers, which is the system now practised.

In the proposed organization, it is not intended to give increased rank, by virtue of their temporary appointments, to the officers employed on the military staff. Their rank would remain according to their commissions in the army. It may be inexpedient to narrow the field of selection by defining the grade from which they shall be taken. They should receive the cavalry pay and allowances of the next higher grade.

This organization removes all grounds of controversy and objection to the rank and exercise of command by staff officers. It leaves military rank to all the military staff.

I cannot doubt that an organization upon these principles would materially increase the efficiency of the staff and promote the general good of the service. It would require, of course, a greater number of officers in the regiments than the law now provides, to furnish the necessary details and appointments on the staff, as well as for regimental duty. No injustice or undue hardship would probably result to individual officers of the present staff corps in assigning them to regiments. If the law for the retired list shall pass, there will be no difficulty on this head. But, in any event, the interest of individuals must yield to the public good.

The present organization of the regiments is also capable of material reforms. In the artillery line we have now a larger body, in proportion to the strength of the army, than can be spared for the proper service of artillery. In fact, most of our artillery has always been armed, drilled, and employed as infantry. As, however, it is necessary that every regular army should have a proportion of artillery, armed, instructed, and ready for service, it is proposed to reduce our artillery to the size which our service requires and can maintain. The regimental organization is now given to it; but in the field, our artillery serves by batteries, and it is proposed to organize it in one corps, of such size only as may suffice for instruction and for necessary service in the field and in fortifications—the officers and men now in the artillery, not required for the reduced corps, to be converted into regular infantry. A sufficient artillery would be about half the strength of the present four regiments of artillery, and would leave enough to make two regiments of infantry.

The cavalry force of our army being all required for active service of the same kind, there appears no propriety in making a permanent distinction in the designation and armament of the several regiments;

It is, therefore, proposed to place all the regiments of cavalry on the same footing in these respects, and to leave it in the power of the executive to arm and equip them in such manner as may be required by the nature of the service in which they may be employed.

The remarks just made in regard to dragoons and mounted riflemen apply to the case of infantry and foot riflemen. In increasing the force of foot troops, it is proposed to designate them all as infantry, leaving to the Executive the selection of the arms and mode of instruction applicable to their service in the field.

A strong reason for this arrangement exists in the fact that, with the recent improvements in small arms, it is probable that the distinction in the armament of heavy and light infantry, and riflemen, will nearly cease, especially in our service, where the whole force is liable to be employed as light troops. In the Prussian army, even before the adoption of the new arms, the service of skirmishers or light troops regulated the instruction of the whole body of infantry.

It has always been difficult to devise a rule of military promotion by which the interests of the State may be secured in advancing none but competent men, without affecting the just pride of the officer, or violating the consideration due to long and faithful service. Undoubtedly, if it were possible that the appointing power should always exercise a perfectly enlightened and impartial judgment, the rule of promotion by selection might be advantageously applied in filling up all the grades of the army. But in no military service has it been thought safe to adopt this rule to such an extent, and in our army the difficulty of its application is vastly increased by the usually scattered condition of the forces, as well as by other considerations.

The appointment of fit men for commissions in the lower grades of the army may be, in a great measure, secured by requiring, in all cases, a preliminary examination, as is now required for the promotion of cadets and non-commissioned officers. But, with every precaution in the first appointment, some officers will be found unsuitable for discharging the duties of the higher grades, or they may become disqualified in consequence of the infirmities of age or other disability. The proposed organization of the general staff provides a remedy, so far as relates to their important duties, by opening a wide field for the selection of general and staff officers, and for replacing those who may, on trial, be found to want the peculiar qualifications requisite for those duties. This principle may, perhaps, be advantageously extended to the selection of officers for some other important stations in the army, just as it is now applicable by law to the appointment of a commander of the corps of engineers. It is necessary, therefore, in order to maintain an efficient body of officers, that some provision shall be made for the cases above alluded to, where officers may be disabled or disqualified for promotion. The only means for effecting this object without injustice to faithful public servants is, to create a retired list which may provide the means of retreat for disabled officers, like that which the institution of a military asylum has afforded to other disabled soldiers. This measure has already received the favorable consideration of one branch of Congress, and its final adoption is urgently re-

commended, as being absolutely essential to an efficient reform. Its adaptation to the service may be tested by restricting to a short period (one year) the exercise of the power to place officers on the retired list, and requiring the renewed authority of law for its continuance; and as to the expense, though that is not the primary consideration in a question which involves the efficiency of the army, it need only be remarked that, by the present law, the disabled officer who renders no service draws full pay, while, on the retired list, he would receive a much smaller allowance. So far as relates to them, the expensive system is that which keeps them on full pay. Whatever military establishment a nation maintains, should be kept efficient; and it never can be so if the higher ranks are occupied by officers incapable of service. The only choice is to retire them on some reduced allowance, or to disband them. The last is a remedy too harsh to be applied to faithful officers, disabled and worn out in military service.

For detailed information concerning the Military Academy, I refer to the report of the last board of visitors, and to that of the chief engineer, *ex officio* inspector of the academy. The proposition submitted in my last annual report to increase the academic term of cadets by the addition of one year, has been matured and put into effect by dividing the class last admitted into two parts, the first to pursue the former course of four years, and the second, composed of the junior and less educated members, to pursue the newly arranged course of studies, which will occupy a term of five years. By this arrangement, we avoid an intermission in the supply of cadets to be attached as brevet second lieutenants to corps and companies; and all classes hereafter admitted will be instructed according to the plan of studies arranged for the five years' course. In general terms, it may be stated that the scientific course has not been increased, and that the additions made are those appertaining to practical military instruction and extension of the course of languages and national law. These additions were deemed necessary to qualify military officers for the high and delicate duties they are sometimes required to perform; and they could not be added without increasing the term, or subtracting something from the thorough scientific education included in the course heretofore pursued.

From a recent inspection of the academy, I can bear testimony to its successful administration, and the many and decided improvements which have, from time to time, been made. Additional means of instruction have greatly facilitated the acquisition of knowledge, and better arrangements in the quarters and recitation rooms have materially contributed to the economy, comfort, and order of the corps.

I concur in the recommendation of the chief engineer for the establishment of a new professorship to replace that of "Ethics and English studies." This chair is now filled by the chaplain of the post, and if it was ever desirable that the pastor of cadets should also be a member of the academic staff, the wider range recently given to the study of philology, national law, and the contemplated addition of cognate branches, renders it impracticable for one person properly to perform both duties.

I also concur in the estimates of that officer for an appropriation for

the commencement of the construction of additional quarters for officers on duty at the Military Academy. The necessity for this is fully stated in the report of the board of visitors and of the chief engineer. The total cost of the proposed buildings is estimated at \$44,054,46, about one-half of which is asked for the current year.

The condition of the sea-coast defences is stated in the report of the chief engineer. The grant of appropriations for these works at the last two sessions of Congress, after their suspension for several years, during which the policy of continuing them was very fully discussed, is regarded as a final decision of the question, and I advert to the subject only to say that recent experience in Europe has placed beyond doubt the wisdom of that conclusion. No defences can long avail a people who cannot meet their foes in the open field, and our fortifications are not intended to serve as the refuge of weakness or as the strong-holds of unpopular power. On the sea-board, in advance of populous cities and important harbors, they are designed to arrest the progress of hostile fleets, and force the invader to abandon his attack, or disembark his troops, and pursue his attack by land. The capacity of sea-coast defences to effect this object against the most powerful armaments that have ever been placed afloat, is amply demonstrated by the results of the late military operations in the Black sea and the Baltic.

Happily we may profit by the experience of others without suffering the evils that attend the practical solution of such problems.

Though our arms have heretofore been considered the best in use, recent inventions in Europe have produced changes in small arms, which are now being used in war, with such important results as have caused them to be noticed among the remarkable incidents of battles, and indicate that material modifications will be made in the future armament of troops.

The superiority of the grooved or rifle barrel and elongated ball, in range and accuracy of fire, has been long known; yet the difficulty of loading this weapon has hitherto, for most military purposes, counterbalanced its advantages. To overcome this difficulty two methods have been proposed; the first, by loading the piece at the breech, has been for some time in use, but has defects which all the ingenuity expended on it has failed to entirely overcome. The second method, which has produced the important results above indicated, is to use an oblong ball of such diameter as to be readily introduced into the the piece, but which afterwards is expanded so as to fill the calibre. This was at first done by providing a rest or support at the junction of the chamber with the bore, as in Capt. Delvigne's method, or by means of a solid pillar in the axis of the barrel, upon which the ball rested, and was expanded by blows from a heavy rammer. This was the plan of Colonel Thouvenin, of the French army, and is known as the system "*à la tige*" which has been extensively used in their service. The same object was subsequently attained by inserting into the rear part of the ball a conical iron cup, which, being driven into the lead by the explosion of the charge, acted as a wedge to expand the ball. This is the plan known by the name of the inventor, Captain Minnié, of the French army. Still more recently, in England, the ball has been improved so as to expand by the force of the powder alone,

without the aid of the cup. This is known as the Pritchett ball, having been brought into use by Mr. Pritchett, a gun-maker of London. This idea also had been suggested by Capt. Delvigne.

My attention being drawn to the subject, I directed experiments to be made by the Ordnance department, both as to the proper shape of the ball and the best mode of grooving the barrel. In the course of these trials some important conclusions were reached, agreeing, as was afterwards ascertained, with the results of the investigations then making in Europe. Although our experiments have been confined to our service rifle and are yet incomplete, they confirm the great superiority claimed for this invention abroad. They show that the new weapon, while it can be loaded as readily as the ordinary musket, is at least equally effective at three times the distance. The foreign experiments indicate a still greater superiority of the new arms. These results render it almost certain that smooth-bored arms will be superseded as a military weapon; but great caution is requisite in introducing a general change in this important element of national defence, for the waste of public money is not the greatest of the evils resulting from the adoption of an erroneous system. The strong probability of a change, and the fact that we have already accumulated so large a supply, more than half a million of muskets and rifles, in the arsenals of the United States, besides about 300,000 in possession of the States, at a cost of near ten millions of dollars, render it not expedient to continue, at this time, on a large scale, if at all, the manufacture of small arms of our present patterns. But, until experience shall enable us to decide on the merits of the new improvements, I am of opinion that our expenditures for small arms should nearly be confined to the making of such as are required for fully testing these inventions. I have, however, asked for the usual appropriations for the national armories, in the hope that our experiments and trials in actual service, and the experience of the present war in Europe, will enable us soon to decide on the value of the recent modifications, and to continue the manufacture of arms upon improved models.

Congress, at its last session, made an appropriation for the purchase of a number of the best breech-loading rifles. To ascertain which, among the many that have been invented, are the best, public notice has been given, through the newspapers, of the appropriation and its object, inviting all inventors to furnish samples of their arms. When all who choose to compete shall have submitted their arms, a number of each kind, deemed worthy of trial, will be subjected to such practical tests as may determine their relative merits as military weapons. Should the result, as it probably will, secure a substantial and simple breech-loading arm, it will supersede our present patterns for the use of cavalry.

The efficacy of these new patterns of arms will be further increased by an improved mode of priming, invented by Dr. Edward Maynard, which has been approved by the highest officers in our military and naval services. Operations are now in progress to perfect the details of fabricating the new primer, and applying it to finished arms of the old pattern, as well as to new ones now in process of manufacture.

In anticipation of an increased, if not exclusive, use of rifle-arms by the regular army, and because of the belief that the rifle or light infantry system of instruction is best adapted to the foot-militia, I have caused inquiries to be instituted into the systems used by the light troops of other countries, that complete light infantry or rifle tactics might be introduced into our service, with such improvements as the experience of other armies has shown to be valuable. A work on this subject is now in the course of preparation, and it is expected will be, in a short time, submitted to you for such action as it may be deemed worthy to receive.

Attention is again called to the necessity for legislation to provide more certain and equitable mode for the distribution of arms among the militia, and to the propriety of supplying them with books of tactical instruction, as contemplated in the clause of the constitution "for training the militia according to the discipline prescribed by Congress."

I have to ask attention to the necessity for further legislation for the sale of useless military sites. According to the construction which has been given to the acts upon this subject, and which, though its correctness has been doubted, must be regarded as settled by the practice of the department, the act of March 3, 1819, applies only to military sites then held, and that of April 28, 1828, only to lands "conveyed to" the United States for forts, &c. According to these views, there is no provision for the sale of lands which, since the 3d of March, 1819, have been reserved from the public domain for military purposes, and I therefore recommend that the provisions of the acts giving authority to sell useless military sites, be extended to embrace those reservations.

Many reservations around military posts originally established on the frontier, and now rendered useless by the advance of population, have acquired great value, not only from the rise in the price of lands in such localities, but from improvements put upon them by the labor of the troops or at public expense. In disposing at public sale of some of these, which came within the act of 1819, it was found that the bids were far below the fair market value of the land—a result which has been attributed, no doubt correctly, to combinations among the bidders. I concur with the Quartermaster General in the opinion that similar results can be prevented in future only by establishing a minimum price, below which the land shall not be sold; and I recommend that provision be made for this purpose, in any act that may be passed on the subject.

The accounts of disbursing officers have been rendered with more than usual punctuality during the past year, but yet not with the promptitude which the department desires to enforce. Many officers, not having staff appointments, besides the performance of their appropriate duties in the active and arduous service of the frontier, are charged with the disbursement of public money, and with the care of public property. This, besides the labor it involves, subjects them to some loss which no care can avoid, and which is a tax upon their pay. To reimburse this loss, if not to remunerate their labor, I concur with the Quartermaster General in recommending that some additional pay be allowed.

I cannot too strongly urge the necessity of effectual measures being

taken for the prompt settlement of accounts of disbursing officers at the treasury. The delay to which they are now subjected exerts a most injurious effect, by destroying the salutary impression of a watchful superintendence of public expenditures, paralyzes the efforts of the department to enforce promptness in accounting, by keeping it in ignorance of the true state of officers' accounts, and exposes them to loss by failing to give them notice of errors or defects of evidence until the accidents and mutations incident to army life have destroyed their ability to rectify the one or supply the other. One cause of the delay has been the distribution of military accounts between two auditors, both of whom, in some cases, have to settle different parts of the same account, and even sometimes different items of the same voucher. It is hoped this inconvenient and useless arrangement will be abolished, and all the military accounts committed to a single auditor. It is scarcely to be expected, however, that this measure alone will remove an evil which has resisted the earnest efforts of this department for a long series of years. It is, however, the remedy suggested by our present knowledge of the case; and, if further investigation shall develop other causes of the delays complained of, it will also indicate the additional means necessary to complete the reform.

The arrangement made by the Treasury Department, by which disbursing officers are enabled to keep funds on deposit with the assistant treasurers of the United States, proves to be of great advantage to the service, and promises, when more perfectly understood and carried into full effect, to obviate most of the inconveniences heretofore experienced in transmitting funds and making disbursements in remote parts of the country. It preserves the control of the department over the public moneys till the moment of their expenditure, and enables it, in the event of the death of an officer, to reclaim its funds without waiting for the appointment of an administrator or the settlement of his accounts. It also removes, in a great measure, those temptations which the possession of large sums of ready money, in times of active speculative excitement, cannot fail to present.

I have again to invite attention to the necessity of some general provision for the prosecution of suits involving titles to lands and other public interests committed to the charge of this department, and for the settlement of accounts for counsel fees, costs, and other expenses incurred in maintaining the rights of the United States in such cases. In the absence of any provision of law on the subject, this department has been subject to exorbitant charges, and has experienced much embarrassment in the conduct of suits.

In pursuance of the views stated in my last annual report in reference to river and harbor improvements, the department has adhered, in the directions it has given, to the design of making them as complete as possible, without any operation being undertaken which would be dependent for its completion upon future appropriations. Some works have been completed in conformity with these views; but by reference to the reports of the colonels of the two corps of engineers, it will be seen that a large majority are unfinished, and that, in many cases, the balances of appropriations applicable thereto are not sufficient to effect results of much value. As no appropriations were made

at the last session of Congress, I have deemed it unnecessary to present further estimates at this time.

To the general remarks upon this subject in my last annual report, I have only to add, that experience confirms the opinion that no benefit at all commensurate with the expense has been obtained, or is to be expected, from appropriations granted and applied in the mode heretofore pursued. Much of the expenditure has been utterly lost for want of further appropriations to complete what has been commenced; and works completed have fallen into ruins for want of appropriations to preserve them from dilapidation by the violence of storms, the wear of currents, and the progress of natural decay. A rock or snag removed from a navigable channel is a benefit gained forever; but artificial structures to protect harbors, or change the course, or increase the velocity of currents, must undergo deterioration, which, however small, will be constant; and whatever policy may be hereafter adopted in regard to such works, it will be imperfect unless it embrace not only their completion upon the plans selected, but their preservation from the operation of the natural agencies which tend to destroy them, as well as from injury or occupation by trespassers. No means will be adequate for these objects, unless accompanied by a cession of exclusive jurisdiction over the site, or at least ownership of the soil. Questions have already arisen, which seem to indicate the difficulties which must inevitably occur from the want of jurisdiction and title whenever the powers now necessarily exercised in the prosecution of these works shall come in conflict with the rights or interests of individuals.

The survey of the northern and northwestern lakes has made steady progress, and the documents accompanying the report of the Colonel of Topographical Engineers show an unusual progress in this work accomplished during the past season.

The roads in course of construction in the Territory of Minnesota have been prosecuted with the means at the disposal of the department, and a document in the report from the Topographical Bureau will show the system pursued and the progress made in their construction. With regard to those in Oregon, Utah, and New Mexico, special instructions have been given from this department, of which copies are appended, designed, in each case, to secure, in the first place, a practicable wagon road between the termini, with such improvement afterwards as the balance of the appropriation would allow. The roads in New Mexico, from Taos to Santa Fé, and from Santa Fé to Doña Ana, authorized by the act of July 17, 1854, have not yet been commenced. The location of these, or at least of the latter, will depend in a great measure upon the success which may attend the efforts to obtain water along the route by wells, for which the act makes provision. The cheapest method of obtaining it will, it is believed, be by boring, for which purpose implements could not be obtained in that country. Measures have been taken to procure the necessary tools and apparatus in connexion with the examinations and trials to be made for the supply of water by artesian wells on the route for the Pacific railroad. When these have been completed, the same apparatus can be economically used for the wells on the military roads.

Since the date of my report of February 6, 1854, communicating to

Congress copies of all reports then received from the engineers and other persons employed in explorations and surveys to ascertain the most practicable and economical route for a railroad from the Mississippi river to the Pacific ocean, the six parties engaged in those surveys have completed their field duties; reports from four of them have been received and printed, under a resolution of the House of Representatives, passed at the last session. The two remaining reports, it is expected, will be ready for the printer in the course of next month. No provision was made, by the resolution above cited, for engraving the maps; without them the reports are comparatively useless.

In making surveys of this character, the maps and reports being hastily prepared in the field, and generally at night, after a day of fatiguing duty, require careful revision in the office, and are considered as merely preliminary to the more elaborate results which finally take their place. Hence it has been found necessary to return some of the reports for revision, and in some cases to replot the work and make new maps.

When all the reports and maps are received, they will be laid before Congress, with a general report, and a map exhibiting all the routes, and such profiles and other drawings as will be necessary to illustrate the subject.

An appropriation having been made, at the last session, for continuing these surveys, a party has been organized to make further explorations between the plains of Los Angeles and the waters of the bay of San Francisco, to determine whether there be a practicable route for a railroad through the mountain passes of the Sierra Nevada and coast range, which extend to the sea coast at Point Conception. A second party is making preparations for testing the practicability of procuring water, by means of artesian wells, upon the arid plains which occur on the several routes. The results of the surveys already made will, when assembled and compared, probably indicate the direction in which further explorations shall be made by parties organized to take the field next spring, as early as the season will permit.

I refer to the report of Captain Meigs, of the corps of engineers, the officer in charge of the Capitol extension, for a very satisfactory account of the progress of that work. The exterior facing of the walls has been retarded by the difficulty of obtaining, under the contract, a sufficient supply of marble; but the brick work is well advanced. The walls of the Senate chamber and Representatives hall are finished, and these rooms will be placed under roof during the present winter. It is expected they will be completed by the meeting of the next Congress; but the delay in the supply of marble may so retard the completion of the outer walls, and the corridors depending thereon, as to prevent their being occupied so early.

The style of the work, both in finish and strength, has been of a higher standard than was contemplated when the estimates were made, but the administrative capacity and professional skill of the officer in charge, have so kept down the expenditures that it is believed the cost will not exceed the estimates made for an inferior building.

The modifications made in the interior plan of the structure are now

so far completed as to be seen and easily understood, and I feel additional assurance as to the successful solution of the difficult problems of acoustics, optics, and ventilation, presented especially in the construction of the Hall of Representatives.

Operations on the work designed to supply this city with water have been suspended for want of funds. It is hoped that appropriations will no longer be withheld from this important work. I have seen no reason to change the opinion that it was judiciously planned and located. My confidence is strengthened that it will be completed at a cost within the estimate, and will secure the object in view with more certainty, and, taking into view the permanence of the work, its capacity to supply future wants, and the absence of machinery entailing annual expense, more economically than any other mode that has been suggested.

By the civil and diplomatic appropriation act, approved August 4, 1854, this department was authorized to purchase for \$200,000 the large fire-proof building at the corner of F and 17th streets, which has long been occupied in common by bureaus of the Treasury, Interior, Navy, and War Departments. The lease under which it was held expired on the 30th of June, and the owner, who had given the department due notice, refused to renew it for a less rent than \$30,000 per annum, which Congress had refused to appropriate. A thorough survey of the building was made by competent engineers and builders, who estimated its value in its actual condition at \$197,042, \$197,997, and \$198,342, respectively, and after some negotiation the owner agreed to accept the amount of the appropriation in payment for the building and in satisfaction of all claims for damages, and also for arrears of rent accrued since the termination of the lease—nearly three months, which could not be paid, as the act was regarded as making an appropriation either for purchase or rent, but not for both.

It is true the plan of the building was not considered as the best adapted for public offices, but Congress had refused to allow the rent demanded by the owner, and had thus left the department no alternative but to purchase or vacate it. Between these conditions there was scarcely a choice. Accommodations elsewhere could not be procured without much difficulty, and I should have felt great reluctance to place in insecure buildings the valuable records stored there; some of which, if destroyed by fire, could not be replaced at a cost less than the price of the building, while others could not be replaced at all; the purchase was therefore concluded upon the terms stated. I have submitted an estimate for repairs and improvements sufficient to put the building in proper condition. Much of the repairs now proposed would have been equally necessary had the government vacated the building, instead of purchasing, as the lease provided that the building should be restored in a good state of repair. The cost of the additional improvements will hardly exceed the amount of the rent that was released in the contract of purchase.

It is hardly necessary to remark that the purchase of this building in no degree obviates the necessity, heretofore frequently presented, of replacing the building assigned for the use of this department with a fire-proof structure.

The accompanying reports of the Commanding General of the army and the chiefs of the several branches of the military service, contain full and exact information in relation to the duties with which they are respectively charged. To these I refer for such details as could not be embraced in this report.

I have the honor to be, very respectfully, your obedient servant,

JEFFERSON DAVIS,

Secretary of War.

To the PRESIDENT of the United States.

Documents accompanying the Report of the Secretary of War.

1. Reports from the Department of Texas.
2. Reports from the Department of New Mexico.
3. Reports from the Department of the West.
4. Instructions respecting Military Roads.
5. Report on the Capitol Extension.
6. Report of the Commanding General, with statements from the Adjutant General.
7. Report of the Quartermaster General.
8. Report of the Commissary General.
9. Report of the Paymaster General.
10. Report of the Surgeon General.
11. Report of the Chief Engineer.
12. Report of the Colonel of Topographical Engineers.
13. Report of the Chief of Ordnance.

REPORTS FROM THE DEPARTMENT OF TEXAS.

HEADQUARTERS DEPARTMENT OF TEXAS,
Corpus Christi, May 10, 1854.

COLONEL: I have the honor to transmit, herewith, a report from Assistant Surgeon E. W. Johns, of an attack on a train twelve miles beyond Fort Ewell, and of the pursuit he caused to be made of the aggressors. I beg leave to call the notice of the general to the prompt, efficient, and skilful measures taken by Assistant Surgeon Johns on this occasion.

It must be observed that as there was reason to expect some expedition on the part of the Indians, several small parties having been seen last moon, all the men that could be spared from the posts were out on scouts, and at Fort Ewell every officer was in the field except Lieutenant Howland, who was sick in bed, leaving the command of the post for some time in the hands of Dr. Johns, assistant surgeon there. Assistant Surgeon Head had just arrived and relieved Dr. Johns; but being a stranger to the country, had left the arrangement of the pursuit to the latter. The non-commissioned officers in charge of the parties sent out, and the men, I know to be as good as any in the army; and of their ability and disposition to render a good account of the enemy, if they can overtake him, I have no doubt; but it is hardly fifty miles to the Rio Grande, and the country is mostly thick chaparral, and hard and dry, retaining little impression of a trail.

I think the party was Lipans and Seminoles, and had just crossed from Mexico. Among the detachments out was one of two non-commissioned officers and eighteen men, from Fort Merrill, under Lieutenant G. Cosby. On Monday he was at Lake Trinidad, about forty miles from this towards Laredo, with half of his command, where he attacked and routed a party of more than forty Indians, killing three and wounding several, and taking all their plunder.

I am sorry to record the loss of Sergeant Byrne, a gallant and good soldier, who fell fighting, pierced with many arrows. Several of the men were wounded, and two are missing. I am afraid they were killed in the chaparral.

Lieutenant Cosby was severely, but not dangerously, wounded in the sword-arm, and his clothes are pierced by arrows. He met Lieutenant Roger Jones shortly after the Indians retreated, who continued the pursuit with sixteen men.

I have no terms to speak my sense of the gallantry and coolness displayed by Lieutenant Cosby in this affair. I beg to call it particularly to the notice of the General, and to beg that some way may be devised for affording to the men the reward they merit for their good conduct, which in this case was conspicuous, having been deserted in the outset by sixteen well mounted and armed rancheros.

Lieutenant Cosby was brought in this morning in a wagon, to receive

surgical assistance, there not being a medical officer in the department to accompany any detachment to the field.

Ascertaining, by the occurrences recited, that the Indians are in some force below the line of posts, I have already despatched the order, a copy of which is enclosed, and will leave no steps untaken to destroy the aggressors.

There are 300 recruits wanted to fill up the rifle regiment, and they could now occupy the posts, and leave all the old soldiers for the field.

* * * * *

With the highest respect, your obedient servant,

PERSIFOR F. SMITH,

Bvt. Maj. Gen. Com'g Dept.

Lieut. Col. LORENZO THOMAS,

Assistant Adjutant General, Headquarters of the Army.

P. S.—Lieutenant Cosby says the guides pronounce the Indians he attacked to be Lipans, and their chief they recognise as a man of consequence, named Castillo.

P. F. S.

HEADQUARTERS DEPARTMENT OF TEXAS,

Corpus Christi, May 15, 1854.

COLONEL: In my report of the 10th instant, transmitting Assistant Surgeon E. W. Johns's account of an attack on a train near Fort Ewell, I said: "The non-commissioned officers in charge of the parties sent out, and the men, I know to be as good as any in the army; and of their ability and disposition to render a good account of the enemy, if they can overtake him, I have no doubt."

I have now the honor to transmit a report from Assistant Surgeon J. Frazier Head, commanding officer at Fort Ewell, announcing the return of the parties, and I hope the General will see in the result of their pursuit a full justification of the confidence I placed in the parties.

It must be observed that the three detachments, each under the first sergeant of its company, joined together, and, without a guide, pressed the pursuit across a country of the most unfavorable kind for eighty miles without a drop of water for either man or horse, and then continued it twenty-five miles further, until they overtook the Indians. These escaped with their persons, as they can always do near a thick chaparral, but lost their plunder, baggage, animals, trophies, and some of their own arms.

I beg to lay before the General, in terms of the highest commendation, the names of First Sergeant C. H. McNally, company D, regiment mounted rifles, who commanded the detachments united; First Sergeant John Green, company B, same regiment; and First Sergeant John Williams, company G, same regiment. I also enclose the post order issued by Dr. Head, and express my concurrence in his praise of the whole command.

I have understood from Colonel Neighbors, Indian agent, and from a report brought to Ringgold barracks, that three or four hundred Indians are assembled at the place occupied by the Seminoles, under

"Wild Cat," in Coahuila, Mexico, who are preparing for an inroad into Texas. It will take many more mounted men than we have to cover the frontier even up to the mouth of the Pecos. But I shall so dispose of the whole command that I hope to be able to keep them from the settlements; but I must leave the road to El Paso somewhat exposed, for there is not cavalry enough to cover it. I wish most earnestly that an additional regiment of mounted riflemen had been authorized by Congress in time for this necessity, and with the increased pay they could be easily raised.

With high respect, your obedient servant,

PERSIFOR F. SMITH,

Brevet Major General Commanding Department.

Lieut. Col. L. THOMAS,

Assistant Adjutant General, Headquarters of the Army.

HEADQUARTERS DEPARTMENT OF TEXAS,
Corpus Christi, July 15, 1854.

COLONEL: Preparatory to moving the regiment of mounted riflemen from the Nueces to the Rio Grande, in conformity with the instructions of the War Department, the companies were ordered to be got ready, and Brevet Lieutenant Colonel Roberts, commanding Fort Ewell, called in all the detachments from that post; thus uncovering the Rio Grande from Laredo down. Lieutenant Colonel Seawell, at Ringgold barracks, and Colonel Loomis, at Fort McIntosh, immediately reported that small parties of Indians were crossing the river at various places, and committing robberies and murders. I immediately ordered some companies to the river again, and directed the detachment from Fort Merrill, that had been withdrawn from Santa Gertrude's (forty miles from this) on account of the men having the scurvy, to be replaced there; but at 3 o'clock a. m., on the 14th, an express from up the road informed me that Indians had killed some persons at "Proscenius," twenty-five miles north of Santa Gertrudes. I then ordered another detachment from Fort Merrill towards the former place.

In the mean time, on the 4th of July, Captain Van Buren, of the rifles, with eleven men and two non-commissioned officers, was sent by the commander of Fort Inge to scout in the direction of the Rio Grande. Near Lake Espantosa he met a party of 8th infantry from Fort Clarke mounted on mules; they had followed the trail of Indians who had come from the northward, and their animals were broken down. Captain Van Buren took up the trail, and followed it to the southward with unsurpassed diligence and under great difficulties until, on the 11th, in the evening, he met them about thirteen miles from "Proscenius," towards the southwest; they were thirty, and he had thirteen men in all. He attacked them boldly, and the Indians at first stood their ground. Their chief, however, was killed, and his body remained in Captain Van Buren's possession; four other Indians fell, but were picked up by their companions. Captain Van Buren was badly wounded in the arm, but dismounted his men to use their rifles more effectually. He soon routed the Indians, who fled, leaving some horses,

many lances and shields, and other trophies; but I regret to say that Captain Van Buren himself was shot through the body with an arrow, entering just above the sword-belt, and coming out *through* it behind. His wound is very dangerous. He had two men wounded, and his horse was shot in the head. In this situation he could not pursue, but sent a corporal and two men to Fort Ewell for a surgeon and ambulance. As these did not arrive, next day he despatched two other men to meet and bring them in; but these got lost, and, finding a trail, followed it until they reached Palo Alto, twenty-five miles from here. From this place they came here, and I immediately despatched Second Lieutenant Roger Jones, with nine riflemen that were waiting as escort for my departure for El Paso. Dr. McParlin, who was here also to accompany me, went with them with an ambulance.

The party, however, that went to Fort Ewell returned with twenty men, under Lieutenant Colonel Roberts, and were bringing Captain Van Buren here when they met Lieutenant Jones at Palo Alto. Col. Roberts was attacked with the dysentery on the march, and returned to Fort Ewell with his command.

The guide of Captain Van Buren, who is a Lipan Indian, says these Indians are Comanches, and the one killed a chief of consequence.

It is reported that another party of Indians is down, twenty-five in number.

Captain Van Buren has just come in, but the surgeon desires that he may be kept quiet.

I respectfully recommend his conduct in a pursuit of over two hundred miles, and in the action, to the consideration of the government. As the mail goes immediately, I will defer sending his report till next mail.

With the highest respect, your obedient servant,

PERSIFOR F. SMITH,

Brevet Major General.

Lieut. Col. L. THOMAS,

Assistant Adjutant General, Headquarters of the Army.

The surgeon says of Captain Van Buren's wound that it is very dangerous, and it will be extraordinary if he recovers.

P. F. S.

[Extract.]

HEADQUARTERS DEPARTMENT OF TEXAS,

"Painted Camp," on the Limpia, Oct. 9, 1854.

COLONEL: I have the honor to transmit a report from Captain J. G. Walker, of the rifles, of a pursuit of a party of Indians, and an action with them and their tribe on the 3d inst. Captain Walker was in command of my escort. We left El Paso on the 28th of September, and at 2 p. m. on the 1st instant arrived at Eagle spring, having marched, in the four days, 121 miles, and on the last day 35. We met, about 14 miles from the Rio Grande, a party driving cattle, who reported that on the morning of the preceding day, at Eagle spring,

they had been robbed by a party of Indians of from sixty to one hundred head of cattle, which had been driven off to the southwest towards the Rio Grande. After our arrival at the spot, finding the trail led out that way, I detached Captain Walker with a part of the escort, supposing that the cattle might be overtaken before they could cross the Rio Grande, which, from what the owners said, I supposed was their destination; having previously intended, if the trail led towards the north, to have taken the whole of the escort and party in pursuit, as the Indian villages were said to be in that direction. Captain Walker was accompanied by Policarp Rodriguez, the guide, and by Mr. Francis Armstrong, (my step son,) a volunteer on the occasion, and by two of the owners of the cattle.

Captain Walker lost the main trail at night, and the next day found another, which led him to what evidently was one of the principal haunts of the Apache bands living in these mountains.

His spirited action there is highly to his credit and that of his command. His own conduct is spoken of in the highest terms by all present; and his clothes, which are cut in more than one place by the Indian arrows, bear testimony of his having been in the thickest of the fight. Lieutenant Carr's gallantry before he was wounded, and his coolness afterwards, were admired by all, and the whole command did their duty in the most praiseworthy manner. Captain Walker lost one man killed, and Lieutenant Carr and the guide wounded; several of the horses were wounded—one fatally, but was brought off. The necessity of seeking surgical aid for Lieutenant Carr, whose wound was thought dangerous, if not fatal, put an end to further search for the stolen cattle, which were not at this camp. The chief and six other Indians were killed, and several wounded; but as these, with some neighboring bands of the same tribe, have been committing constant depredations on this road, I propose to send up some of the Texas volunteers and other mounted troops to drive them out of the country.

* * * * *

With the highest respect, your obedient servant,

PERSIFOR F. SMITH,

Brevet Major General Commanding Department.

Colonel S. COOPER,

Adjutant General.

REPORTS FROM THE DEPARTMENT OF NEW MEXICO.

[Extract.]

HEADQUARTERS DEPARTMENT OF NEW MEXICO,

Albuquerque, March 29, 1854.

COLONEL: I have the honor to report, for the information of the major general commanding the army, that a very spirited affair came off on the 5th instant, some sixty miles from Fort Union, between the Jicarilla Apaches and a detachment of the second dragoons, commanded by Second Lieutenant Bell. The parties were about equally matched as to numbers—say twenty-four warriors each—and both ready to measure their strength. The result of the conflict is, that the Indians lost five killed and many wounded, the detachment of dragoons lost two killed and four wounded. The Indians fled in great disorder to the cañons and gorges of the Canadian. This is a part of the band which captured and killed Mrs. White, and subsequently killed off the mail party near Wagon Mound. The chief most prominent in these operations—"Lobo"—was killed by Lieutenant Bell, who has certainly managed this affair with discretion and gallantry. That you may be fully informed of every particular, I send, under cover, the report of Colonel Cooke, second dragoons, together with the report of Lieutenant Bell.

* * * * *

I am, very respectfully, your obedient servant,

JNO. GARLAND,

Brevet Brigadier General Commanding.

Lieut. Col. L. THOMAS,

Asst. Adjt. General, Headquarters of the Army, New York.

[Extract.]

HEADQUARTERS DEPARTMENT OF NEW MEXICO,

Albuquerque, April 1, 1854.

COLONEL: I have the honor to enclose herewith, for the information of the general-in-chief, a copy of a report from Major Blake, first dragoons, very unsatisfactory as regards particulars.

The Indians, Jicarilla Apaches and Utahs, have managed to combine a force of 250 warriors, and unexpectedly attacked a company of dragoons, 60 strong, about 25 miles from Fernandes de Taos, under the command of Lieut J. W. Davidson, first dragoons, and succeeded, after a desperate conflict, in overwhelming it. Lieut. Davidson and Assistant Surgeon Magruder, both wounded, returned from the battle field with about seventeen men, most of them wounded.

Ex. Doc. 1—3*

The troops displayed a gallantry seldom equalled in this or any country, and the officer in command, Lieut. Davidson, has given evidence of soldiership in the highest degree creditable to him. To have sustained a deadly contest of three hours, when he was so greatly outnumbered, and then to have retired with the fragment of a company, crippled up, is amazing, and calls for the admiration of every true soldier.

To prevent further disaster, I have ordered Lieut. Col. Cooke, second dragoons, to take the field, with about 200 dragoons and a company of artillery armed with rifles.

If hostilities are continued—and I have little doubt such will be the case—I will be forced to call upon the governor of this Territory for two or three companies of volunteers.

It is very desirable that a strong mounted force, with a good supply of horses, be sent out early in the spring.

* * * * *

I am, Colonel, very respectfully your obedient servant,

JNO. GARLAND,

Brevet Brigadier General Commanding.

Lieut. Col. L. THOMAS,

Asst. Adjt. General, Headquarters of the Army, New York.

HEADQUARTERS DEPARTMENT OF NEW MEXICO,

Santa Fe, April 30, 1854.

COLONEL: I have the honor to report, for the information of the major general commanding the army, that Lieut. Col. Cooke, second dragoons, on hearing of the disaster which befel the command of Lieut. Davidson on the 30th March, proceeded, with the available force at Fort Union, in the shortest possible time to Taos, where he organized a force of 200 men, and on the 4th instant marched in pursuit of the Indians, whom he overtook on the 8th on the upper branches of the Agua Calientes, and immediately gave them battle, the result of which will be found in the enclosed copy of his report. This prompt and energetic movement reflects the highest credit upon this officer, and I feel satisfied has prevented the Utahs from making common cause with the Jicarilla Apaches. It is known that the Indians lost six warriors in the affair of the 8th. It has also been ascertained that they have lost four of their chiefs since the commencement of hostilities, and nearly the whole of their animals and baggage. Their pursuit was checked for a few days by a violent storm of wind and snow, which lasted thirty hours, and very nearly paralyzed the whole command. The enemy had previously led their pursuers over the most rugged ground which troops were ever known to campaign in—the spurs of the mountain often reaching to the height of 3,000 feet, very abrupt, and covered with snow several feet in depth.

Col. Cooke is now at a small Mexican village (Rito) west of the Rio Grande, and though suffering with chills and fever, has sent out two detachments of about 140 men each, in hot pursuit, and with strong hopes of bringing the Indians to battle. Their numbers have been

reduced by desertions, wounds, and death, to about 100 warriors. That is the greatest number now assembled at any one point.

It is all-important to crush this band of *pirates*. They have too long indulged in murder and plunder to leave a hope of reformation. They do not pretend to keep good faith in *treaties* or promises. Their thorough chastisement will undoubtedly have its effect upon the contiguous tribes now looking on with deep interest for the result, and will give us assurance of many months of peace.

I have made strong efforts to bring this business to a speedy close, and will succeed if it is within the reach of possibility. Unusual and extraordinary measures have been taken to effect this desirable object, and which will be explained in another communication.

I have not as yet had a report of operations of the three companies ordered to Sierra Blanco to divert the attention of the Mezcalero from this quarter.

I am, Colonel, with great respect, your obedient servant,

JOHN GARLAND,

Brevet Brigadier General Commanding.

Lieut. Col. L. THOMAS,

Asst. Adjt. General, Headquarters of the Army, New York.

[Extract.]

HEADQUARTERS DEPARTMENT OF NEW MEXICO,

Fort Thorn, June 5, 1854.

COLONEL: I have the honor to report, for the information of the major general commanding the army, that several trains have been attacked and the mail-stage fired upon at a point in Texas not within the limits of this department, called Eagle Spring; and that I have felt it to be my duty to detach one of the companies from Fort Bliss to take post there until other arrangements could be made for the safe transportation of the mail, and also for the protection of emigrants *en route* to California.

The depredators are understood to be Mezcalero Apaches from the Sierra Blanco. This band numbers about two hundred and fifty warriors, and occupies the country between the White mountains and the Pecos river. It is my intention to send five companies into their country in the course of the present month. I am informed that they have recently committed some murders and thefts in the vicinity of Anton Chico, the lowest settlement on the Pecos. I had hoped to have brought matters to a close with the Jicarillas before entering upon my new military operations, but in this my expectations have not been fully realized.

* * * * *

Most respectfully, I am, Colonel, your obedient servant,

JOHN GARLAND,

Brevet Brigadier General Commanding.

Lieut. Col. L. THOMAS,

Assist. Adjutant General, Army Headquarters, New York.

HEADQUARTERS DEPARTMENT OF NEW MEXICO.

Santa Fe, June 30, 1854.

COLONEL: In making report of the military operations against the Jicarilla Apaches under the eye and orders of Lieutenant Colonel Cooke, 2d dragoons, for the information of the general-in-chief, I will confine myself to the simple remark that all has been done which was in the power of troops to do.

I approve most cordially the manner in which Lieutenant Colonel Cooke has conducted his campaign.

The Jicarilla Apaches have been most thoroughly humbled, and beg for peace. They are dispersed in small parties with the exception of one band, which is now hard pressed by about one hundred men under Major Blake and Captain Ewell, 1st dragoons.

In order to a full understanding of the vigorous prosecution of the campaign, the difficulties encountered and overcome, I have thought it advisable to transmit the detailed reports of Lieutenant Colonel Cooke, marked A, of Brevet Major Carleton, 1st dragoons, marked B, and of Lieutenant Ransom, 1st dragoons, marked C. These officers are entitled to the highest commendation for the zeal, activity, and gallantry displayed by them in prosecuting the war; they have proven *that* to the Indians which is worth more to us than a victory; that is, they are not safe from pursuit in the most inaccessible parts of the Rocky mountains.

For the activity and zeal displayed by the junior officers, and for other interesting details, I respectfully call attention to the accompanying reports already referred to. All speak in the highest terms of praise of the Mexicans and Pueblos employed as trailers, spies, &c. Captain Quinn, who had the immediate charge of them, gave evidence throughout of sagacity and indomitable courage; the same remark will equally apply to Mr. Kit Carson, sub-agent of Indian affairs.

I will simply add, in conclusion, that one hundred and eighty men are now in the country of the Mezcalero Apaches, under the command of Brevet Lieutenant Colonel Chandler, 3d infantry. This band of Indians has been infesting the road leading from El Paso to San Antonio, committing murders and robberies; the steps which I have taken will, it is believed, put an end to their depredations in that quarter.

The Navajoes have remained quiet this year; a small party of them, renegades, stole some hundreds of sheep last month, which the nation has restored to the proper owners.

The Utahs are playing a doubtful game, and have to be watched very closely; their sympathies are all with the Jicarilla band of Apaches.

I am, Colonel, very respectfully, your obedient servant,

JOHN GARLAND,

Brevet Brigadier General Commanding Department.

Lieut. Col. L. THOMAS,

Assist. Adjt. Gen., Headquarters of the Army, New York.

[Extract.]

HEADQUARTERS DEPARTMENT OF NEW MEXICO,

Albuquerque, August 30, 1854.

COLONEL: It will be satisfactory to the commanding general to know that the Indians within the department have exhibited no hostility towards us during the present month; they, however, continue to steal animals occasionally for food, and will, of necessity, continue to do so until they are confined to some limits in which the intercourse act of 1834 can be enforced. It is next to impossible to ascertain whether or not there is any Indian country in New Mexico—consequently, the Mexican population do not hesitate to barter powder and lead with them for their stolen property. Whenever the government may think it expedient to establish limits for the several tribes, by treaty or otherwise, the Indians can be forced to occupy them in communities, as is now the case with several pueblos, the occupants of which cultivate the ground quite as well, and make more orderly citizens than many of the Mexican communities occupying frontier localities.

I have the honor to be, very respectfully, your obedient servant,

JOHN GARLAND,

Brevet Brigadier General Commanding.

Lieut. Col. L. THOMAS,

Asst. Adjt. Gen., Headquarters of the Army, New York.

REPORTS FROM THE DEPARTMENT OF THE WEST.

[Telegraphic despatch.]

HEADQUARTERS DEPARTMENT OF THE WEST,
Jefferson Barracks, September 7, 1854.

I communicate the following despatch just received from Fort Leavenworth:

By express just arrived from Fort Laramie, Lieutenant Fleming wishes me to telegraph that, on the 18th of August an Indian (Sioux) killed an ox belonging to an emigrant train, close to Fort Laramie. The head chief reported the fact to Lieutenant Fleming, and offered to give up the offender. Brevet Second Lieutenant Grattan, with the interpreter, Sergeant Favor, Corporal McNulty, and twenty privates, were sent to receive him. The whole detachment were massacred without exception. How it occurred, Lieutenant Fleming is unable to state. No reliable information as to the number of Indians killed and wounded. The Bear, head chief, is reported killed. The Indians are hostile, menacing the fort. All the men are on duty, and Lieutenant Fleming thinks he can hold the fort, but needs more troops as soon as possible. I shall order one or two companies from Fort Riley to proceed to Fort Laramie immediately.

Respectfully, your obedient servant,

N. S. CLARKE,

Colonel Sixth Infantry, Brevet Brig. General, commanding.

Colonel S. COOPER,

Adjutant General, Washington, D. C.

FORT LARAMIE, W. T.,
September 1, 1854.

MAJOR: An occurrence has come to my knowledge since my arrival at this post, which, in my judgment, demands from me a special report, although I am informed that the main facts in the matter have already been reported to the commander of the department.

A large body of Sioux Indians, composed of the bands of the Brulés, Ogalalos, and Minicoujons, had been encamped six or eight miles below Fort Laramie for some time previous to the 19th ultimo, awaiting the arrival of the Indian agent, General Whitfield, to receive their annuities of presents. On the day previous to the date just named, an ox, belonging to a train of Mormon emigrants, was captured and killed by a Minicoujon Indian—in what manner and under what circumstances I must leave the general commanding the department to judge from the conflicting statements herewith transmitted.

On the same day that this depredation was committed, and the same that was complained of by the owner of the ox, a very influential man among the Sioux, called the Bear, chief of the band of Brulés, came to the commanding officer of Fort Laramie, Second Lieut. H. B. Fleming, 6th infantry, and reported the circumstances of the case. He said that the offender was a Minicoujon Indian, residing, for the time being, in the Brulé camp, and suggested the propriety of sending a detachment of troops to demand him; in which event, he had no doubt that the man would readily be given up, or language to that effect.

Accordingly, on the 19th of August, 1854, a party of twenty-nine enlisted men, of company G, 6th infantry, under the command of Brevet Second Lieut. John L. Grattan, of the same regiment, was ordered to bring in the Indian, if practicable, without unnecessary risks.

The Sioux encampment was situated on the north fork of the Platte, between Gratiot's trading-house, of the American Fur Company, and that of a Mr. Bordeau, which are distant five and eight miles, respectively, from Fort Laramie, following the Oregon route down the Platte. The Ogalalos and Minicoujons lay between Gratiot's house and the Brulé camp, and stretched along a mile and a half or two miles, parallel to and between the road and the river. They had to be passed, of course, in order to reach the camp of the Brulés, which lay with one extremity resting on or near the lower extremity of the Minicoujon camp, and the other on the Oregon road, in the vicinity of Bordeau's trading-house. The Brulé camp was semi-circular in figure, having its convexity towards the river, and having in the rear of it a slight but abrupt depression in the ground, partially overgrown with bushes.

Lieutenant Grattan left the fort about 3 o'clock p. m., with his party, and an interpreter, for the Brulé camp. Arrived at Gratiot's, he halted, and caused his small-arms to be loaded, without capping. He then proceeded about two miles further—that is to say, near the upper extremity of the Brulé camp—and halted again to load two pieces of artillery, (a 12-pounder howitzer and a mountain howitzer,) with which he had been provided. He here explained to the party the nature of the service to be performed, and how it was to conduct itself; then, resuming his march, he moved on to Bordeau's house, sent for Mr. Bordeau himself, and requested him to go for the chief above named, called the Bear, with the view to availing himself of the authority and influence of that Indian for the accomplishment of his mission. The Bear came, but could not or would not deliver up the accused Minicoujon, and Lieutenant Grattan was, therefore, compelled to seek and take by force, if need be, the offender, or submit to the mortification of retiring without having accomplished the object of his mission; and rather than do this, he resolved boldly to enter the Brulé camp and take the Indian at all hazards—having previously informed himself of the precise locality of the offender. This was nearly in the centre of the camp, and not far from the lodge of the Bear.

Up to this moment all the statements, verbal and written, which I have been able to obtain, substantially agree; but as to what transpired immediately after, there is much confusion, contradiction, and uncertainty, owing, doubtless, to the conflicting interests, prejudices, and predilec-

tions of the spectators of the same, and to the hurried and confused movement of events ever incident to crises of danger. That which appears certain is, that so soon as Lieut. Grattan commenced his movement into the Brulé camp, the younger warriors, not only of that band, but of the whole Sioux camp, commenced preparing to resist the capture of the Minicoujon depredator by assembling in brushwood and behind the bank, before alluded to as characterizing the ground in the rear of the Brulé village. Not only this, but the old men, in council, clamored for delay, thereby indicating that they were unable to restrain their warriors, or that they were playing into their hands by giving them time for preparation. Lieutenant Grattan doubtless imagined that these indications were all unfavorable to the object of his expedition, and determined to bring the matter to an issue at once by submitting the alternative of an immediate surrender of the offending Minicoujon, or instant hostilities against the Brulés. The result proves what must have been the reply of the Indians; for, although it is impossible to ascertain which party struck the first blow, it is positively established beyond all contradiction that the troops had scarcely time to make a single discharge of their small-arms and the two pieces of artillery they carried with them, before their commander and a large portion of their numbers were struck dead upon the ground they occupied. Those who escaped instant slaughter, after making a fruitless effort to disengage themselves from the net-work formed by a thousand or fifteen hundred warriors, fell fighting, individually or in small parties, until the whole detachment was, in the forcible Indian phraseology, completely "wiped out"—but one man having escaped, with great difficulty, to the fort, and he died in two or three days afterwards of his wounds.

* * * * *

I have the honor to be, Major, your obedient servant, &c.,

O. F. WINSHIP, A. A. G.

Brevet Major F. N. PAIGE, *Asst. Adjt. Gen. U. S. A.*,

Headquarters Department of the West, Jefferson Barracks, Mo.

INSTRUCTIONS RESPECTING MILITARY ROADS.

WAR DEPARTMENT,
Washington, August 2, 1854.

SIR: Pursuant to an act of Congress recently passed, the military road from Camp Stewart to the mouth of Myrtle creek, on Umpqua river, is to be extended to Scottsburgh, and an appropriation of \$20,000 has been made to defray the cost of construction. This sum will be placed to your credit with the assistant treasurer at San Francisco, and you are hereby placed in charge of the work.

Your object will be first to secure a practicable wagon-road between the points indicated, and then to devote the remainder of the funds at your disposal to the improvement of the most difficult places, aiming to make the road uniformly good throughout its length.

You are authorized to have the work done by contract, or to employ hands for the purpose. The former is believed to be the preferable mode, particularly if persons residing along the line, and thus interested in the success of the work, are willing to undertake it at moderate rates.

You will render your accounts to this department as early as practicable after the expiration of each quarter.

Very respectfully, your obedient servant,

JEFF'N DAVIS,
Secretary of War.

Lieut. JOHN WITHERS,
4th Infantry, Fort Vancouver, Washington Territory.

WAR DEPARTMENT,
Washington, September 19, 1854.

SIR: By an act approved the 17th of July last, an appropriation of \$25,000 was made for "the construction of a military road within the Territories of New Mexico and Utah, commencing at Great Salt Lake City, Parowan, and Cedar City, to the eastern boundary of California, in the direction of Cajon Pass." It has been determined to have the work done by contract, and to intrust to you the duty of making the necessary contracts.

The amount of the appropriation, it is presumed, will not be more than sufficient to overcome the principal difficulties along the route indicated. From the best information the department can obtain, it is supposed there will be encountered, at a certain point south of Cedar City, at the jornada commencing at Muddy creek, and another terminating at the Mohave river, and in the passage of the mountains near the head of the Santa Clara; but you will have opportunities of obtaining more full and reliable accounts respecting the route, before entering on the execution of these instructions. After informing yourself as fully

as possible on the subject, you will make contracts with responsible parties for the construction of a practicable wagon-road at these and all other difficult places, bearing in mind that the object is to obtain the best road that the money will make over the whole route.

For a work of this kind, it is not expected there will be any competing bidders; but, on the contrary, you may find it difficult to find proper persons to take contracts. In such circumstances, persons residing on the line of the road, or otherwise interested in its completion, have been found to offer the best terms; and as this work must be of importance to the inhabitants of all the places mentioned in the act, the governor of the Territory or other prominent citizens will, no doubt, afford you efficient aid in finding reliable persons to undertake it.

Contractors would of course prefer to receive payment as the work progresses; and as they would thus avoid, in great part, the necessity of borrowing money, or using their own means to pay wages and furnish supplies to laborers, they could do much more for a given amount, so paid, than for the same sum withheld till the completion of the work. The department would therefore be willing to adopt this course, if it could be done with perfect safety; but the money cannot legally be advanced to contractors, nor can an officer be detailed to superintend the work and make payments, while the employment of a civil agent would perhaps cost almost as much as would be saved by making the payments promptly. It is possible, however, that you will be able to make some safe arrangements to avoid the long delay which will be incurred if payment be withheld until the entire work be finished and inspected; but if no such arrangement can be made, you will, in making the contracts, stipulate for payments to be made only after the completion of the work and inspection by an officer to be detailed for the purpose.

Very respectfully, your obedient servant,

JEFF'N DAVIS,
Secretary of War.

Brevet Lieut. Col. E. J. STEPTOE.

WAR DEPARTMENT,
Washington, November 28, 1854.

SIR: By an act approved July 17, 1854, the following appropriations are made for the construction and repair of roads in the Territory of New Mexico, viz: from Taos to Santa Fe \$20,000, and from Santa Fe to Doña Ana, including the sinking of wells if required, \$12,000. You are hereby charged with the execution of these works.

As indicated by the terms of the appropriation act, the want of water is one of the difficulties to be overcome on the route last mentioned, and your attention will be first directed to that object. It is believed that the readiest and cheapest mode of procuring water will be by sinking artesian wells, and for that purpose the apparatus procured to make examinations in connexion with the exploration of railroad route to the Pacific, will, when no longer required on that work, be turned over to you at Santa Fe.

When, as in these cases, a comparatively small amount of money is appropriated for a long line of road, the department has directed that the road be first rendered practicable for wagons through its entire length, and that the remainder of the appropriation be expended on the more difficult portions of it, so as to render the whole as uniform as possible. You will pursue this plan in executing the work now intrusted to you.

It is deemed best to have the work done by contract if practicable, and in making contracts for the purpose, to endeavor to have them taken by persons residing near the line of the road, or otherwise personally interested in its completion, stipulating either for the execution of a specified quantity of work, or, what perhaps is preferable, for the completion of a certain portion of the road, payment being subject to your approval of the work.

You will consult freely with the commanding officer of the department in regard to the location and construction of the roads.

The amount of the above-mentioned appropriations will be placed at your credit with the assistant treasurer at St. Louis, Missouri.

Very respectfully, your obedient servant,

JEFF'N DAVIS,
Secretary of War.

Captain E. P. SCAMMON,
Corps Top. Engs., Santa Fe, New Mexico.

REPORT ON THE CAPITOL EXTENSION.

OFFICE EX. U. S. CAPITOL AND WASHINGTON AQUEDUCT,
October 12, 1854

SIR: I have the honor to report the progress of the works for the extension of the United States Capitol.

At the date of my last annual report the walls of the basement story had been raised, and on the south wing two-thirds of the arches supporting the principal floor had been turned; those of the north wing had been commenced.

The limit to the rapidity of building was then stated to be the possibility of getting marble.

The contractors for marble afterwards objected to supplying marble of such dimensions as were thought proper for the work, maintaining that their contract bound them to furnish for the ashlar only blocks of 9 to 18 inches bed.

Upon your recommendation to the Committee of Public Buildings, a law was passed by Congress giving authority to make a supplemental contract to obtain the marble in larger blocks, and to procure the columns with monolithic shafts. A copy of this contract accompanies this report.

The quantity of marble thus far delivered has not been sufficient to carry on the work as rapidly as I could desire, and as the funds appropriated by Congress would justify, but I presume that the contractors have done all that the price allowed them enabled them to do.

The marble is quarried in Berkshire county, Massachusetts, transported ninety miles by railroad to Bridgeport, and thence shipped to this port. This complicated operation is liable to many interruptions and delays. Lately the arrangements of the contractors having been improved by experience, the delivery of marble has been more rapid, and I hope to accumulate a supply which will enable the contractors to keep the large force now at work employed all winter. At the date of my last report 75,659 cubic feet of marble had been delivered, which had cost \$109,661 21.

From that time to 4th October, 1854, there were received 48,968 cubic feet, costing \$78,518 18.

There are now on hand 35,758 cubic feet, or 1,321 blocks of marble, of which 695 blocks, or 17,261 cubic feet, are worked and ready to be set in the walls; and the remainder, 626 blocks, or 18,476 cubic feet, are either in the rough or in the shop partly finished.

The supply has been somewhat irregular, which prevented the contractors from employing a very large force until lately. They have now about 250 men employed in cutting, rubbing, and setting the marble.

The whole of the masonry of the basement story of both wings is now completed, and the marble facing of a portion of the principal

story is carried to the top of the window-jambs; none of these jambs are yet completed. They are now in hand; and as they are very elaborately carved, some two months' work being applied to each one, it will be some time before they can all be set. About thirty carvers are employed upon them, and the force is being increased as good workmen can be obtained. The carving of the pilaster capitals has also been commenced.

The interior walls have all been carried up to the spring of the roofing arches of the attic story: a portion of these arches have been closed.

The walls of the Representatives and Senate halls are at their full height, and the setting of the iron bed-plates for the roof has commenced.

The construction of the roof is commenced, and during the remainder of the season I expect to get the Representatives and Senate halls roofed over.

Up to 30th September, 1853, there had been paid on	
Provest & Winter's contract for marble work.....	\$101,155 35
Since then, including first payment in October.....	87,752 77
Total to 30th September, 1854.....	188,908 12

Amount paid to Rice, Baird & Heebner for marble, to	
30th September, 1853	\$109,661 25
Amount paid since then, including first payment in Oc-	
tober, 1854	78,518 18
	188,179 43

The number of days-work during the year has been 101,070. The number of bricks received has been 9,037,601, costing \$70,246 89. Of these there have been laid in the walls and arches of the south wing 3,476,218; and of the north wing 4,441,483: we have on hand 1,119,900.

I hope during the next season to complete the body of both wings, and to commence the construction of the porticoes.

If the contractors for marble supply the material as fast as they have engaged to, I see no reason to prevent the next Congress meeting within the walls of the new halls.

Cash account.

Amount available 30th September, 1853	\$781,816 49
Amount appropriated 4th March, 1854.....	750,000 00
	1,531,816 49
Amount expended during year ending 30th September,	
1853.....	449,685 82
Amount available 30th September, 1854,	
viz: in treasury, undrawn.....	\$1,045,000 00

Amount deposited with Treasurer at Washington, and assistant treasurers at New York and Philadelphia.....	\$36,072 55
Amount in hand of agent.....	1,058 12
	\$1,082,130 67

The following appropriations have been made for the extension of United States Capitol, viz:

Appropriation of 30th September, 1850.....	\$100,000 00
Joint resolution of 14th April, 1852.....	500,000 00
Deficiency bill for year ending 30th June, 1853.....	400,000 00
General appropriation bill for year ending 30th June, 1854.....	600,000 00
General appropriation bill for year ending 30th June, 1855.....	750,000 00
	2,350,000 00

Of which there has been expended \$1,267,869 33; leaving available for the fiscal year ending 30th June, 1855, \$1,082,130 67.

For the service of the year ending 30th June, 1856, there will be required the sum of \$325,000.

Respectfully submitted:

M. C. MEIGS,

Capt. Eng., in charge Ex. U. S. Capitol and Washington Aqueduct.

Hon. JEFFERSON DAVIS, *Secretary of War.*

Agreement between the United States of America, of the first part, by Capt. Montgomery C. Meigs, of the corps of engineers, acting under the authority of and for and in behalf of the said United States in the erection of the extension of the Capitol; and John Rice and Charles Heebner, all of Philadelphia county, in the State of Pennsylvania, under the style and title of Rice, Baird, and Heebner, of the second part, witnesseth:

That, whereas the United States, by Thomas U. Walter, architect, did on the 17th day of January, 1852, enter into contract with John Rice, John Baird, Charles Heebner and Matthew Baird, for all the marble required for the exterior of the extension of the United States Capitol, according to certain specifications attached to and forming part of that contract; and whereas, by the twenty-fifth article of said specifications, the ashlar work throughout the building was to have beds of from nine to eighteen inches, and by the eleventh article of said specifications the frusta of the column shafts were not to be less than four feet in height; and whereas it is desired by the United States to procure the ashlar work with larger beds than provided in these specifications, and the columns with monolithic shafts if possible; and whereas, by a joint resolution of Congress, approved on the first day of March, 1854, the President is authorized to cause a supplemental contract to be made with the contractors for the marble for the Capitol

extension, to procure the columns and ashlar in larger blocks than required by the specifications of their present contract :

The parties of the second part, in consideration of the matters herein set forth, covenant and agree to and with the party of the first part to furnish and deliver at the proper cost of the said parties of the second part, on the grounds of the extension of the United States Capitol, all the marble for the exterior of said extension, in blocks of such size, not exceeding 120 (one hundred and twenty) cubic feet net, as may be from time to time ordered by the party of the first part ; and to deliver for the 100 (one hundred) columns of the exterior porticoes as many monolithic shafts as their quarry may prove capable of furnishing, and the remainder of the whole number required in two blocks each, one of which to form two-thirds of the whole length of each shaft.

The party of the first part, in consideration of the premises, agrees to pay the parties of the second part at the rate of one dollar and ninety-eight cents per cubic foot for all the blocks of marble for the exterior which exceed eighteen inches bed, and at the rate of fourteen hundred dollars for each monolithic column shaft for the exterior porticoes, and eleven hundred dollars for each shaft delivered in two pieces, as above specified, for the columns of the same.

And it is expressly understood, that the contract of the 17th January, 1852, remains in full force as to all its provisions and conditions excepting so far as they are modified, as to the size and price of the blocks, by this supplemental contract :

Provided, however, that in case the officer or agent of the United States, in charge of the Capitol extension for the time being, shall at any time be of opinion that this contract is not duly complied with by the parties of the second part, or that it is not in due progress of execution, or that the said parties of the second part are irregular or negligent in the performance of this contract, in such case he shall be authorized to declare this contract forfeited, and thereupon the same shall become null, as far as it regards the party of the first part ; and the parties of the second part shall have no appeal from the opinion and decision aforesaid, and they hereby release all right to except to or question the same in any place, or under any circumstances whatever ; but the parties of the second part shall still remain liable to the party of the first part for the difference between the prices stipulated in this contract, and the prices the said party of the first part may have to pay for the marble required to finish the work, as well as for all other damages occasioned to the said United States by such non-compliance, irregularity or negligence :

And provided, also, that in order to secure the punctual and faithful performance of the covenants made by the parties of the second part by these presents, and to indemnify and protect the party of the first part from loss in case of default and forfeiture of this contract, the said party of the first part shall be authorized to retain in its hands until the completion of the contract, ten per cent. on the amount of moneys at any time due to the said parties of the second part, until the moneys thus retained, together with what may have been retained on the original contract, shall amount to fifteen thousand dollars, after which the marble subsequently delivered shall be paid for in full on delivery,

leaving the aforesaid fifteen thousand dollars in the possession of the party of the first part until the completion of the contract.

And it is hereby expressly understood by the contracting parties, that all the marble is to be delivered in the rough, except the column blocks mentioned and provided for herein, and that the dimensions, with the usual allowance for the dressing of all the blocks required for the work, are to be furnished from time to time by the aforesaid party of the first part; and that said dimensions are to constitute the measurement on which payment is to be made, without allowance for any surplus over and above the sizes thus given. And further, that the parties of the second part are to have all the column blocks scabbled round to dimensions at their own proper cost.

And it is further stipulated and agreed, that no member of Congress shall be admitted to any share or part of this contract or agreement, or to any benefit to arise therefrom; and this contract shall be in all its parts subject to the terms and requisitions of an act of Congress, approved on the 21st day of April, 1808, entitled "An act concerning public contracts."

It is also expressly understood and agreed by and between the parties hereto, that if Congress should at any time fail to make the appropriations necessary to carry on the said work, that then and in such case the execution of this contract shall be suspended until such appropriations shall be made, without thereby creating any claim on the United States by the said contractors.

It is expressly understood that this contract is not to be binding upon either party until it receives the approval of the Secretary of War.

And for the true and faithful performance of all and singular the covenants, articles and agreements, hereinbefore particularly set forth, the subscribers hereunto bind themselves, jointly and severally, their and each of their successors, heirs, executors and administrators.

Thus covenanted and agreed by us, the parties aforesaid, in the city of Washington, this thirtieth day of March, 1854; as witness our hands and seals.

M. C. MEIGS, [L. s.]
Captain Engineers.

JOHN RICE. [L. s.]

CHARLES HEEBNER. [L. s.]

Signed, sealed, and delivered in presence of—
(the words "John Baird and Matthew Baird" struck out of the seventh line, first page, and the words "under the style and title of Rice, Baird and Heebner," interlined between eighth and ninth lines, first page, before signature; also the word "and" inserted after "John Rice," sixth line, same page, before signature)—

Z. W. DENHAM,

W. J. FITZPATRICK.

Approved:

JEFFERSON DAVIS,

Secretary of War.

WAR DEPARTMENT, April 19, 1854.

Know all men by these presents, that we, William Struthers and John Baird, marble-masons, of the city of Philadelphia, State of Pennsylvania, are held and firmly bound unto the United States of America in the full and just sum of twenty thousand dollars, lawful money of the United States, to be paid to the said United States, or to its proper agent or attorney, duly authorized to receive the same, to which payment well and truly to be made and done we bind ourselves and every of us, our and every of our heirs, executors, and administrators, in the whole and for the whole, jointly and severally, firmly by these presents: sealed with our seals, and dated this eighteenth day of April, anno Domini one thousand eight hundred and fifty-four.

The condition of the above obligation is such, that if John Rice and Charles Heebner, their heirs, executors, or administrators, do and shall well and truly execute a contract which they the said John Rice and Charles Heebner have entered into with Captain Montgomery C. Meigs, of the United States corps of engineers, for and in behalf of the United States, by which they have contracted to furnish and deliver, at their own proper cost, all the marble and column shafts for the exterior of the extension of the United States Capitol at Washington, conforming in all respects to the terms and conditions of said contract, then the foregoing obligation to be void and of none effect; otherwise to remain in full force and virtue in law.

WM. STRUTHERS. [SEAL.]

JOHN BAIRD. [SEAL.]

Signed, sealed, and delivered in presence of—

(the words "John Baird and Matthew Baird" struck out of the 18th and 19th lines, 1st page, before signature)—

THOS. BIRCH.

I certify that I am acquainted with William Struthers and John Baird, of the city of Philadelphia, State of Pennsylvania, the sureties named in the above bond, and that they are severally freeholders and residents of said city, and in my opinion sufficient sureties for the purposes mentioned in the within bond.

CHAS. BROWN, *Collector*.

Ex. Doc. 1—4*

REPORT OF THE COMMANDING GENERAL.

HEADQUARTERS OF THE ARMY,

New York, November 18, 1854.

SIR: I beg to offer the following professional suggestions on matters touching the "discipline and military control" of the army, with which (and in those terms) I am charged by the army regulations.

In my last annual report (Ex. Doc. 1, House of Representatives, 33d Congress, 1st session, pp. 96, 97,) I invited attention to the dispersed condition of the troops as being highly unfavorable to instruction and discipline, and suggested that something might be done to improve the *morale* of the army, by—

1. A revision of the rules and articles of war incorporating a system of *rewards with* punishments, harmonizing material discrepancies, the result of many hasty enactments, and more clearly defining rights and duties, as well as crimes, and affixing definite and appropriate punishments according to the nature and degree of the offences.

2. A radical change in the system of recruiting, which would leave, with every regiment, (by dividing it into *service* and *depôt* companies, alternating in duty,) the filling up its own ranks, and thus establishing an early acquaintance and sympathy between officers and non-commissioned officers and their men.

3. A retired list for superannuated and disabled officers, recommended with much force by many administrations, and always favorably reported upon by the military committees of the two houses of Congress; and,

4. Placing the pensions of the army on the same footing with those of the navy.

Reflection and experience have strengthened the conviction that such measures would much improve the well-being and efficiency of the army. To that end Congress, at its last session, gave additional pay to enlisted men, and authorized promotion to commissions from the ranks, enactments which will, no doubt, heighten the moral condition of our non-commissioned officers and privates. Something more, however, is still needed to secure the enlistment of a sufficient number of young men of respectable character and attainments (for promotion to lieutenancies) under the standard (not too high) established by the War Department. I allude to the suggestions above, and more particularly to the revision of the code, including a fence of law around the rights of inferiors, beginning with privates, against caprice and violence on the part of authority. Such is the circle of ameliorations I beg earnestly to recommend in order to render the military career eligible from the beginning, and to give to the whole army the highest efficiency.

During the past year, the troops in the department of the West, the department of Texas, the department of New Mexico, and the depart-

ment of the Pacific, have been most actively engaged in endeavoring to protect our settlements on the Indian borders, and emigrants passing through the Indian country. The bad feeling shown by many of the Indian tribes, and continued acts of open hostility on the part of others, have cost our small detachments much arduous service, with severe sufferings, including the loss of many valuable officers and men. With them the campaigns hardly ever intermit; and although the conflicts have been on a small scale, our troops on every occasion have displayed a noble zeal and daring, which seem to me worthy of being better known and better rewarded. I have, heretofore, presented the names of a few of the more distinguished officers in these combats for brevets. The number might now, perhaps, be doubled. This reward of merit, though cheap to the government, is always coveted by the noblest spirits. At least it is hoped that the number of our regiments in the presence of active, numerous, hostile, and treacherous bands, may at length be sensibly increased, in order to secure the defence and protection contemplated, and with, on our part, *a smaller sacrifice of life*, which is always greatest with inadequate numbers, even when most triumphant. This is an argument dictated by humanity, and policy is equally on the side of a considerable augmentation; for there is not a petty tribe in the interior that does not believe itself—judging from the handfuls of troops we exhibit here and there—equal in numbers to the people of the United States.

With four (perhaps three) additional regiments, most of the small posts on Indian borders might be withdrawn, and the troops, in battalions, held in good strategical positions. When at rest, instruction and discipline would be advanced, and each battalion, leaving a small guard behind, might, in column, composed of at least a portion of cavalry, be instructed to make an annual circuit through the nearest Indian country—always seen in a condition to pursue and to strike—in order to overawe hostile machinations, and to punish violations of peace. Similar views have often been presented in my annual reports, beginning with 1842; but, from the want of troops, they have been only partially put into practice.

It is with some diffidence that I beg a renewed consideration of another subject that received the favor of the War Department in its last annual report. I allude to *the pay of army officers*.

Out of the service, it does not seem to be understood or felt that the successes of the United States in the recent war against Mexico, by flooding the country with gold and prosperity, and thence bringing about an enormous increase in the price of every necessary and comfort of life, has, practically, imposed a tax (by that increase) of forty dollars in every hundred on the annual pay and emoluments of the officers who won those successes! (The enlisted men, it has been seen, have had their proportionate augmentation of pay.)

I have the honor to remain, with high respect, your most obedient servant,

WINFIELD SCOTT.

Hon. J. DAVIS,

Secretary of War, Washington, D. C.

A.—Organization of the regular

	Major general.	Brigadier general.	Adjutant general.	Assistant adjutant general (lieutenant colonel.)	Assistant adjutants general (majors by brevet.)	Assistant adjutants general (captains by brevet.)	Judge advocate.	Inspectors general.	Quartermaster general.	Asst. quartermasters general.	Dep. quartermasters general.	Quartermasters.	Assistant quartermasters.	Commissary general of subsistence.	Assistant commissary general of subsistence.	Commissaries of subsistence (majors.)	Commissaries of subsistence, (captains.)	Surgeon general.	Surgeons.	Assistant surgeons.	Paymaster general.	Deputy paymasters general.	Paymasters.
General officers.....	1	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Aids-de-camp to general officers....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Adjutant general's department....	..	..	1	1	*4	*8	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Judge advocate's department.....	..	..	..	..	..	*1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Inspector general's department.....	..	..	..	..	..	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Quartermaster's department.....	..	..	..	..	..	..	..	..	1	2	2	5	*28	..	..	..	..	..	..	..	..	..	..
Subsistence department.....	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	2	*8	..	..	..	..	..	..
Medical department.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	22	72	..	..	..
Pay department.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	2	25
Corps of engineers.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Corps of topographical engineers..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Ordnance department.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
1st regiment of dragoons.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
2d regiment of dragoons.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Aggregate of dragoons.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Regiment of mounted riflemen.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
1st regiment of artillery.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
2d regiment of artillery.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
3d regiment of artillery.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
4th regiment of artillery.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Aggregate of artillery.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
1st regiment of infantry.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
2d regiment of infantry.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
3d regiment of infantry.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
4th regiment of infantry.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
5th regiment of infantry.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
6th regiment of infantry.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
7th regiment of infantry.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
8th regiment of infantry.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Aggregate of infantry.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Non-commissioned staff unattach'd to regiments.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Grand aggregate.....	1	2	1	1	*4	*8	*1	2	1	2	2	5	*28	1	1	2	*8	1	22	72	1	2	25

*2 of the 4 assistant adjutants general, (majors by brevet,) 2 of the 8 assistant adjutants general, (captains by brevet,) 3 of the 28 assistant quartermasters, and 3 of the 8 commissaries of subsistence, (captains,) belonging also to regiments, and being reported in the strength thereof, to avoid counting them *twice*, are excluded as *staff* officers from the columns "total commissioned" and "aggregate" of their respective departments. The regimental and staff commissions held by these officers are of *unequal* grades, and hence they are not affected by the provisions of the 7th section of the act of June 18, 1846. The like remark is applicable to the *judge advocate* of the army, who is also a captain in the ordnance department.

† The 4 aids-de-camp being taken from regiments and reported in the strength thereof, to avoid counting them *twice*, are excluded as *staff* officers from the columns "total commissioned" and "aggregate."

‡ The adjutants of artillery and infantry, (12,) and *all* the regimental quartermasters, (15,) being taken from the subalterns, and accounted for in their several regiments as belonging to companies, are excluded as regimental *staff* officers from the columns "total commissioned" and "aggregate."

§ Under the act of July 19, 1848, section 3, vacancies in the grade of quartermaster cannot be filled until the number of quartermasters be reduced to 4.

|| Under the 4th section of the act of April 29, 1812, "making further provisions for the corps of engineers," 1 brevet 2d lieutenant is allowed for every company. The number authorized is, consequently, 159. The number now attached to the army is 58.

¶ By the act of April 5, 1832, section 2, "providing for the organization of the ordnance department," the number of ordnance sergeants cannot exceed "1 for each military post." The number actually in service is 72.

** 2 companies in each of the 4 regiments of artillery being equipped as light artillery, are allowed, in consequence thereof, "64" instead of 42 privates. See act "to increase the rank and file of the army, &c.," approved June 17, 1850, section 1.

army of the United States—1854.

Colonels.	Lieutenant colonels.	Majors.	Captains.	Aids-de-camp.	Adjutants.	Regimental quartermasters.	First lieutenants.	Second lieutenants.	Brevet second lieutenants.	Military storekeepers.	Sergeant majors.	Quartermaster sergeants.	Principal or chief musicians.	Chief buglers.	¶ Ordnance sergeants.	Sergeants.	Corporals.	Buglers.	Musicians.	Farriers and blacksmiths.	Artificers.	†† Privates.	Enlisted men of ordnance.	Total commissioned.	Total enlisted.	Aggregate.
...	...	...	...	4	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3	...	3	
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	10	...	10	
...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	2	...	2	
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	37	...	37	
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	9	...	9	
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	95	...	95	
1	2	4	††14	...	...	...	12	10	4	...	...	...	...	...	...	10	10	...	2	...	...	78	...	28	...	28
1	1	4	††14	...	...	...	10	6	5	...	...	...	...	...	...	...	...	...	...	...	...	...	47	100	147	
1	1	4	††14	...	...	...	12	4	3	15	...	...	...	...	...	...	...	...	...	...	...	...	41	...	41	
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	250	54	250	304
1	1	2	10	...	1	†1	10	10	3	...	1	1	1	2	...	40	40	20	...	10	...	500	...	38	615	653
1	1	2	10	...	1	†1	10	10	4	...	1	1	1	2	...	40	40	20	...	10	...	500	...	39	615	654
2	2	4	20	...	2	†2	20	20	7	...	2	2	2	4	...	80	80	40	...	20	...	1,000	...	77	1,230	1,307
1	1	2	10	...	1	†1	10	10	2	...	1	1	1	2	...	40	40	20	...	20	...	640	...	37	765	802
1	1	2	12	...	†1	†1	24	12	...	...	1	1	...	...	...	48	48	...	24	...	24	**548	...	52	694	746
1	1	2	12	...	†1	†1	24	12	2	...	1	1	...	...	...	48	48	...	24	...	24	**548	...	54	694	748
1	1	2	12	...	†1	†1	24	12	3	...	1	1	...	...	...	48	48	...	24	...	24	**548	...	55	694	749
1	1	2	12	...	†1	†1	24	12	...	...	1	1	...	...	...	48	48	...	24	...	24	**548	...	52	694	746
4	4	8	48	...	†4	†4	96	48	5	...	4	4	...	...	...	192	192	...	96	...	96	**2192	...	213	2776	2989
1	1	2	10	...	†1	†1	10	10	4	...	1	1	2	...	...	40	40	...	20	...	...	420	...	38	524	562
1	1	2	10	...	†1	†1	10	10	5	...	1	1	2	...	...	40	40	...	20	...	...	420	...	39	524	563
1	1	2	10	...	†1	†1	10	10	4	...	1	1	2	...	...	40	40	...	20	...	...	420	...	38	524	562
1	1	2	10	...	†1	†1	10	10	4	...	1	1	2	...	...	40	40	...	20	...	...	420	...	38	524	562
1	1	2	10	...	†1	†1	10	10	4	...	1	1	2	...	...	40	40	...	20	...	...	420	...	38	524	562
1	1	2	10	...	†1	†1	10	10	3	...	1	1	2	...	...	40	40	...	20	...	...	420	...	37	524	561
1	1	2	10	...	†1	†1	10	10	5	...	1	1	2	...	...	40	40	...	20	...	...	420	...	39	524	563
1	1	2	10	...	†1	†1	10	10	3	...	1	1	2	...	...	40	40	...	20	...	...	420	...	37	524	561
8	8	16	80	...	†8	†8	80	80	32	...	8	8	16	...	...	320	320	...	160	...	...	3360	...	304	4192	4496
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	72	...	...	...	...	...	...	...	...	...	72	72
18	19	42	†200	†4	†15	†15	240	178	58	17	15	15	19	6	72	642	642	60	258	40	96	†7270	250	957	9385	10342

†† By the act of March 3, 1853, section 9, a lieutenant of engineers, topographical engineers, or ordnance corps, having served continuously 14 years, is entitled to promotion to the grade of captain, but this does not increase the number of officers in the several corps.

†† By the act of June 17, 1850, above cited, (note **,) section 2, the President is authorized, whenever the exigencies of the service require it, to increase to 74 the number of privates in any company "serving at the several military posts on the western frontier, and at remote and distant stations." In the table the minimum or fixed organization is given, viz: 50 privates to a company of dragoons, 64 to a company of light artillery and riflemen, and 42 to the artillery and infantry. Under the authority conferred upon him, the President has directed that the number of privates be carried up to 74 in the several companies serving in the peninsula of Florida, in Texas, New Mexico, California, and Oregon, as well as those at Forts Snelling and Ripley, on the Upper Mississippi, Fort Ridgely, on the Minnesota river, Fort Riley, on the Kansas, Fort Arbuckle, on the False Washita river, and Forts Kearny and Laramie, on the Oregon route. There are at this time 135 companies serving at, or in route to, these distant stations, viz: all the companies of the 3 cavalry regiments, (30,) all those of the 8 infantry regiments, except 4 companies of the 7th regiment, (76,) and 29 companies of artillery: 6 of these last belong to the 1st regiment, 8 to the 2d, 11 to the 3d, and 4 to the 4th regiment. The authorized increase in the number of privates is, therefore, 3,874, making the "total enlisted" (as the troops are now posted or in route) 13,259, and the aggregate 14,216. If all the companies belonging to regiments, (158,) were serving at the distant stations described, the additional number of privates allowed would then be 4,500, thus increasing the "total enlisted" to 13,885, and the aggregate 14,842.

S. COOPER, *Adjutant General.*

ADJUTANT GENERAL'S OFFICE, Washington, November 21, 1854.

B.—Position and distribution of the troops in the Department of the
Colonel 2d artillery—Head-

POSTS.	SITUATION.	COMMANDING OFFICERS.	Number of companies.	GARRISONS.
				Regiments.
				Department staff.....
Fort Brady	Sault de Ste Marie, Mich.	Capt. F. N. Clarke, 4th artillery	1	4th artillery
Fort Mackinac.....	Michilimackinac, Mich...	Capt. and Bvt. Major T. Williams, 4th artillery.	1	4th artillery.....
Fort Ontario.....	Oswego, N. Y.....	Capt. J. P. McCown, 4th artillery	1	4th artillery.....
Fort Independence...	Boston harbor, Mass.	Capt. and Brevet Major J. B. Scott, 4th artillery.	2	4th artillery.....
Fort Hamilton.....	} Narrows, N. York harbor	Maj. W. W. Morris, 4th artillery	2	4th artillery..... {
Fort Lafayette.....		Col. and Bvt. Brig. Gen. E. A. Hitchcock, 2d infantry.	2	2d infantry.....
Carlisle Barracks	Carlisle, Pa.....	Col. and Bvt. Brig. Gen. J. B. Walbach, 4th artillery.	..	.....
Headquarters 4th artillery.	Baltimore, Md.....	Lieut. Col. and Bvt. Col. J. L. Gardner, 1st artillery.	2	1st and 2d artillery...
Fort McHenry.....	Baltimore harbor, Md.	Col. J. B. Crane, 1st artillery...	4	1st artillery.....
Fort Monroe.....	Old Point Comfort, Va...	Maj. and Bvt. Col. J. Dimick, 1st artillery.	2	1st artillery.....
Fort Moultrie.....	Charleston harbor, S. C..	Capt. and Bvt. Maj. J. A. Haskin, 1st artillery.	1	1st artillery.....
Fort Capron.....	Indian river, Fla.	Capt. J. Vogdes, 1st artillery...	1	1st artillery.....
Key West Barracks...	Key West, Fla.....	Capt. H. C. Pratt, 2d artillery..	3	2d artillery.....
Fort Myers.....	Caloosahatchee, Fla.....	Capt. and Bvt. Maj. L. G. Arnold, 2d artillery.	3	2d artillery.....
Fort Meade	Pea creek, Fla.	Maj. and Bvt. Col. J. Munroe, 2d artillery.	..	Detachment.....
Fort Brooke	Tampa, Fla.....	Lieut. Col. J. Erving, 2d artillery.	..	Headquarters 2d artillery.
Fort Pickens.....	} Pensacola harbor, Fla. {	Capt. and Bvt. Maj. F. Woodbridge, 2d artillery.	1	2d artillery.....
Fort McRee		Capt. W. F. Barry, 2d artillery.	1	2d artillery.....
Barrancas Barracks...	Baton Rouge, La.....	Companies not recruited.....	2	2d infantry.....
Baton Rouge Barracks.				
Aggregate of the department			29	

ADJUTANT GENERAL'S OFFICE, Washington, November 21, 1854.

East, commanded by Brevet Brigadier General James Bankhead, quarters, Baltimore, Md.—1854.

PRESENT.																									ABSENT.							PRESENT AND ABSENT.					
Brigadier generals.	Assistant adjutants general (majors by brevet.)	Assistant adjutants general (captains by brevet.)	Assistant quartermasters general.	Deputy quartermasters general.	Quartermasters.	Assistant quartermasters.	Commissaries of subsistence (majors.)	Commissaries of subsistence (captains.)	Surgeons.	Assistant surgeons.	Deputy paymasters general.	Paymasters.	Colonels.	Lieutenant colonels.	Majors.	Captains.	Aids-de-camp.	Adjutants.	Regimental quartermasters.	First lieutenants.	Second lieutenants.	Brevet second lieutenants.	Military storekeepers.	Enlisted men.	Total commissioned.	Aggregate.	General staff officers.	Field officers.	Captains.	Subalterns.	Enlisted men.	Total commissioned.	Aggregate.	Commissioned officers.	Enlisted men.	Aggregate.	
1													1											40	2	43						2	1	3	2		2
																1				1	1		45	2	47						2	2	2	4	42	46	
									1							1				1	1		59	3	62					1	2	1	1	4	59	63	
																2			2	2		97	7	104					2	1	2	3	9	98	107		
										1					1	2			1	1	2	142	8	150					2	1	2	3	10	143	153		
										1					2			1	1	2	3	1	164	12	176									12	164	176	
													1					1				2	2	4										2	2	4	
									1					1		2			4	2		155	10	165						3		3	10	158	168		
						1			1				1		1	4			1	4	4	199	16	215				4	1	4	5	20	200	220			
										1					1	1			1	2		95	6	101	1		1	3		5	5	11	95	106			
										1						1			1	1		17	4	21				1		1	1	5	17	22			
										1						1			1			15	3	18				2		2	2	5	15	20			
										1						2			3	1	1	134	8	142			1	5	15	6	21	14	149	163			
										1						1			3	2	1	118	8	126			2	4	21	6	27	14	139	153			
						1			1					1					1			31	5	36									5	31	36		
														1				1				1	2	3	5									3	2	5	
																1			1	1		31	4	35									4	31	35		
										1						1			1			17	3	20				2		2	2	5	17	22			
																2			1	2	1	16	6	22									6	16	22		
1						2		1	4	9			4	2	3	25		3	5	29	23	4	138	115	1496	1		4	29	44	34	78	149	1425	1574		

S. COOPER, Adjutant General.

C.—*Position and distribution of the troops in the Department of the
Twiggs—Headquarters,*

POSTS.	SITUATION.	COMMANDING OFFICERS.	GARRISONS.	
			Number of companies.	Regiments.
				Department staff.....
Fort Ripley.....	Upper Mississippi, Minne- sota.	Capt. and Bvt. Maj. G. W. Pat- ten, 2d infantry.	1	2d infantry.....
Fort Ridgely.....	Minnesota river, 90 miles from Fort Snelling.	Major H. Day, 2d infantry	3	2d infantry
Fort Snelling.....	Near St. Paul, Minnesota.	Capt. and Bvt. Maj. J. W. Sher- man, 3d artillery.	1	3d artillery.....
Fort Laramie.....	Oregon route, Nebraska..	Maj. W. Hoffman, 6th infantry.	3	6th infantry.....
Fort Kearny.....	Oregon route, Nebraska..	First Lieut. Henry Heth, 6th in- fantry.	1	6th infantry.....
Fort Riley.....	Kansas river, Kansas	Maj. and Bvt. Lieut. Col. W. R. Montgomery, 2d infantry.	2	2d infantry.....
Fort Leavenworth....	Missouri river, Kansas...	Lieut. Col. P. St. G. Cooke. 2d dragoons.	5	2d dragoons and 4th artillery.
Jefferson Barracks....	Near St. Louis, Missouri.	Col. and Bvt. Brig. Gen. N. S. Clarke, 6th infantry.	6	6th infantry.....
Fort Gibson.....	Cherokee Nation, west of Arkansas.	Lieut. Col. P. Morrison, 7th in- fantry.	4	7th infantry.....
Fort Smith	Arkansas.....	Colonel H. Wilson, 7th infantry ..	..	Headquarters 7th in- fantry.
Fort Washita.....	False Washita, west of Ar- kansas.	Capt. and Bvt. Lt. Col. B. Bragg, 3d artillery.	2	2d and 3d artillery....
Fort Arbuckle.....	Wild Horse creek, west of Arkansas.	Major G. Andrews, 7th infantry	4	7th infantry
Aggregate of	the department .....	.....	32	.....

ADJUTANT GENERAL'S OFFICE, Washington, November 21, 1854.

West, commanded by Brigadier and Brevet Major General David E.
St. Louis, Missouri—1854.

PRESENT.																										ABSENT.					PRESENT AND ABSENT.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
Brigadier generals. Assistant adjutants general (majors by brevet.) Assistant adjutants general (captains by brevet.) Assistant quartermasters general. Deputy quartermasters general. Quartermasters. Assistant quartermasters. Commissaries of subsistence (majors.) Commissaries of subsistence (captains.) Surgeons. Assistant surgeons. Deputy paymasters general. Paymasters. Colonels. Lieutenant colonels. Majors. Captains. Aids-de-camp. Adjutants. Regimental quartermasters. First lieutenants. Second lieutenants. Brevet second lieutenants. Military storekeepers. Enlisted men. Total commissioned.																										Aggregate. General staff officers. Field officers. Captains. Subalterns. Enlisted men. Total commissioned. Aggregate. Commissioned officers. Enlisted men. Aggregate.					Commissioned officers. Enlisted men. Aggregate.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7</

S. COOPER, Adjutant General.

D.—*Position and distribution of the troops in the Department of Texas, of mounted riflemen—Headquarters,*

POSTS.	SITUATION.	COMMANDING OFFICERS.	GARRISONS.	
			Number of companies.	Regiments.
				Department staff.
Post on the Limpia....	Lower route to El Paso, Texas.	Lieut. Col. W. Seawell, 8th infantry.	6	8th infantry.....
Camp at Live Oak creek.	Midway between San Antonio and El Paso.	Capt. B. H. Arthur, 1st infantry	1	1st infantry.....
Camp on El Paso road	Near head of San Pedro..	Capt. R. S. Granger, 1st infantry	1	1st infantry.....
Fort Clark.....	Head of Las Moras river.	Capt. J. H. King, 1st infantry...	2	1st infantry.....
Fort Duncan.....	Eagle Pass, Texas	Col. J. Plympton, 1st infantry..	7	1st artillery and 1st infantry.
Fort McIntosh.....	Laredo, Texas.....	Lieut. Col. and Bvt. Col. W. W. Loring, rifles.	10	Rifles, 1st artillery, & 5th infantry.
Ringgold Barracks.....	Rio Grande City, Texas ..	Col. G. Loomis, 5th infantry...	8	Rifles, 4th artillery, & 5th infantry.
Fort Brown.....	Brownsville, Texas	Maj. G. Porter, 4th artillery....	3	4th artillery.....
Fort Merrill.....	Nueces river, 50 miles above Corpus Christi.	Capt. and Bvt. Lieut. Col. A. Porter, rifles.	2	Mounted rifles.....
Fort Inge.....	Near head of Leona river, Texas.	Maj. J. S. Simonson, rifles.....	2	Mounted rifles.....
Fort McKavett.....	San Saba river, Texas....	Captain W. J. Newton, 2d dragoons.	2	2d dragoons.....
Fort Chadbourne.....	Oak creek, 95 miles from Fort McKavett.	Capt. P. Calhoun, 2d dragoons.	2	2d dragoons.....
Fort Belknap.....	Red Fork, Brazos river, Texas.	Maj. E. Steen, 2d dragoons	3	2d dragoons and 7th infantry.
Escort to Mexican Boundary Commission.....		First Lieut. and Bvt. Capt. E. K. Smith, 7th infantry.	1	7th infantry and detachment of 1st infantry.
Aggregate of the department			50	.....

ADJUTANT GENERAL'S OFFICE, Washington, November 21, 1854.

commanded by Bvt. Major General Persifor F. Smith, colonel regiment Corpus Christi, Texas—1854.

PRESENT.																									ABSENT.							PRESENT AND ABSENT.				
Brigadier generals.	Assistant adjutants general (majors by brevet.)	Assistant adjutants general (captains by brevet.)	Assistant quartermasters general.	Deputy quartermasters general.	Quartermasters.	Assistant quartermasters.	Commissaries of subsistence (majors.)	Commissaries of subsistence (captains.)	Surgeons.	Assistant surgeons.	Deputy paymasters general.	Paymasters.	Colonels.	Lieutenant colonels.	Majors.	Captains.	Aids-de-camp.	Adjutants.	Regimental quartermasters.	First lieutenants.	Second lieutenants.	Brevet second lieutenants.	Military storekeepers.	Enlisted men.	Total commissioned.	Aggregate.	General staff officers.	Field officers.	Captains.	Subalterns.	Enlisted men.	Total commissioned.	Aggregate.	Commissioned officers.	Enlisted men.	Aggregate.
..	1	..	..	..	..	4	..	1	..	..	..	4	1	..	..	..	..	..	..	1	..	..	..		12	12	..	..	..	..	..	..	..	12		12
..	..	..	..	..	..	..	..	..	..	1	..	..	..	1	..	4	..	1	1	3	2	..	..	220	12	232	..	2	2	7	15	11	26	23	235	258
..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	1	..	..	1	1	..	..	71	4	75	..	..	..	1	3	1	4	5	74	79	
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	1	..	..	53	2	55	..	..	..	1	4	1	5	3	57	60	
..	..	..	..	..	..	1	..	..	..	1	..	..	..	..	..	2	..	..	1	1	1	..	110	7	117	..	1	..	3	4	4	8	11	114	125	
..	..	..	..	..	..	..	..	..	..	1	..	1	..	1	..	5	..	1	1	3	3	1	..	409	17	426	..	1	2	7	10	10	20	27	419	446
..	..	..	..	..	..	..	..	..	..	1	..	..	..	1	..	7	..	1	..	3	6	3	..	579	22	601	..	1	3	13	14	17	31	39	593	632
..	..	..	..	..	..	..	..	..	..	1	..	..	1	..	1	7	..	1	1	2	2	..	..	491	16	507	..	1	1	10	7	12	19	28	498	526
..	..	..	..	..	..	..	..	..	1	..	..	..	..	1	2	..	..	..	6	1	..	..	125	11	136	..	..	1	2	1	3	4	14	126	140	
..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	1	..	..	..	1	1	..	..	111	4	115	..	..	1	2	2	3	5	7	113	120	
..	..	..	..	..	..	..	..	..	..	1	..	..	..	1	2	..	..	..	1	2	..	..	73	7	80	..	..	..	2	2	2	4	9	75	84	
..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	1	..	..	..	2	1	..	..	58	5	63	..	..	1	2	26	3	29	8	84	92	
..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	1	..	1	1	1	3	..	..	99	8	107	..	..	1	2	9	3	12	11	108	119	
..	..	..	..	..	..	..	..	..	..	1	..	..	..	1	1	..	..	..	2	1	..	..	111	6	117	..	..	2	5	30	7	37	13	141	154	
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	..	30	2	32	..	..	1	1	5	2	7	4	35	39	
..	1	..	..	..	..	5	..	1	1	10	..	4	3	2	5	35	..	5	4	28	25	6	..	2540	135	2675	..	6	15	58	132	79	211	214	2672	2886

S. COOPER, Adjutant General.

E.—*Position and distribution of the troops in the department of New 8th infantry—Headquarters, Santa*

POSTS.	SITUATION.	COMMANDING OFFICERS.	GARRISONS.	
			Number of companies.	Regiments.
				Department staff.....
Fort Massachusetts ...	Utah country, 85 miles from Taos.	Capt. and Brevet Lieut. Col. H. Brooks, 2d artillery.	1	2d artillery.
Cantonment Burgwin.	Near Taos, New Mexico.	Major G. A. H. Blake, 1st dragoons.	1	1st dragoons.....
Fort Union	Moro river, New Mexico.	Colonel T. T. Fauntleroy, 1st dragoons.	2	1st dragoons, and 3d infantry.
Ordnance Depot, Fort Union.	Moro river, New Mexico.	Military Storekeeper W. R. Shoemaker.	..	Detachment ordnance
Fort Marcy.....	Santa Fé, New Mexico...	Capt. and Brevet Major W. T. H. Brooks, 3d infantry.	1	3d infantry.....
Albuquerque.....	New Mexico.....	Capt. and Brevet Lieut. Col. J. H. Eaton, 3d infantry.	2	1st dragoons, and 3d infantry.
Las Lunas.....	25 miles below Albuquerque.	Captain R. S. Ewell, 1st dragoons.	1	1st dragoons.....
Fort Defiance.....	Navajoe county, 190 miles west of Albuquerque.	Capt. and Brevet Major H. L. Kendrick, 2d artillery.	3	2d artillery, and 3d infantry.
Fort Craig.....	Near Valverde, New Mexico.	Capt. and Brevet Lieut. Col. D. J. Chandler, 3d infantry.	2	1st dragoons, and 3d infantry.
Fort Thorn.....	Santa Barbara, New Mexico.	Capt. and Brevet Major J. B. Richardson, 3d infantry.	2	1st dragoons, and 3d infantry.
Fort Fillmore.....	Brasito, 40 miles above El Paso.	Lieut. Col. D. S. Miles, 3d infantry.	4	1st dragoons, and 3d infantry.
Fort Bliss.....	Near El Paso, Texas.....	Major and Brevet Lieut. Col. E. B. Alexander, 8th infantry.	4	8th infantry.....
Aggregate of	the department .....	.....	23	.....

ADJUTANT GENERAL'S OFFICE, Washington, November 21, 1854.

Mexico, commanded by Brevet Brigadier General John Garland, colonel Fé, New Mexico—1854.

PRESENT.																									ABSENT.							PRESENT AND ABSENT.			
Brigadier generals. Assist. adjutants general (majors by brevet.) Assist. adjutants general (captains by brevet.) Assistant quartermasters general. Deputy quartermasters general. Quartermasters. Assistant quartermasters. Commissaries of subsistence (majors.) Commissaries of subsistence (captains.) Surgeons. Assistant surgeons. Deputy paymasters general. Paymasters. Colonels. Lieutenant colonels. Majors. Captains. Aids-de-camp Adjutants. Regimental quartermasters. First lieutenants. Second lieutenants. Brevet second lieutenants. Military storekeepers. Enlisted men. Total commissioned. Aggregate. General staff officers. Field officers. Captains. Subalterns. Enlisted men. Total commissioned. Aggregate. Commissioned officers. Enlisted men. Aggregate.																									Enlisted men. Total commissioned. Aggregate. General staff officers. Field officers. Captains. Subalterns. Enlisted men. Total commissioned. Aggregate. Commissioned officers. Enlisted men. Aggregate.							Commissioned officers. Enlisted men. Aggregate.			
...	1	...	...	...	2	1	...	...	...	...	2	1	...	...	...	...	1	...	...	...	...	...	...	9	9	...	...	...	...	9	...	9			
...	...	...	...	...	...	...	1	...	...	...	...	...	...	1	...	1	...	...	1	...	...	...	92	3	95	...	...	2	1	2	3	5	93	98	
...	...	...	...	...	...	...	...	...	...	1	...	...	1	1	...	1	...	...	1	...	...	...	80	3	83	...	...	1	3	1	4	4	83	87	
...	...	...	...	1	...	...	1	...	1	...	1	...	2	...	1	2	2	...	1	2	2	...	112	10	122	...	...	1	8	1	9	11	120	131	
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	10	1	11	...	...	...	...	...	...	1	10	11		
...	...	...	...	...	...	1	...	...	...	...	...	...	1	...	1	...	1	1	...	...	...	65	4	69	...	...	1	2	1	3	5	67	72		
...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	1	3	...	1	3	...	131	6	137	...	...	3	17	3	20	9	148	157		
...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	1	...	...	...	67	2	69	...	...	1	19	1	20	3	86	89			
...	...	...	...	...	...	1	...	...	...	...	...	...	3	...	...	2	2	...	2	2	...	174	8	182	...	...	2	39	2	41	10	213	223		
...	...	...	...	...	...	1	...	...	...	...	...	...	1	...	...	2	1	...	2	1	...	126	5	131	...	1	2	15	3	18	8	141	149		
...	...	...	...	...	...	1	...	...	...	...	...	...	1	...	...	1	1	1	...	1	1	1	148	5	153	...	1	2	7	3	10	8	155	163	
...	...	...	...	...	...	1	...	...	1	...	3	...	1	1	2	2	1	...	2	2	1	...	227	12	239	...	3	1	2	34	6	40	18	261	279
...	...	...	...	...	...	1	...	...	1	3	...	...	2	4	1	...	...	2	4	1	...	154	12	166	...	1	2	17	3	20	15	171	186		
...	1	...	...	3	...	1	1	8	...	2	2	1	2	19	...	1	2	14	18	4	1	1386	80	1466	...	3	4	19	162	26	188	106	1548	1654	

S. COOPER, Adjutant General.

F.—Position and distribution of the troops in the Department of the
Wool—Headquarters,

POSTS.	SITUATION.	COMMANDING OFFICERS.	GARRISONS.	
			Number of companies.	Regiments.
				Department staff.....
Steilacoom	Puget's Sound, Washing- ton Territory.	Capt. D. A. Russell, 4th infantry	2	4th infantry
Fort Vancouver.....	Vancouver, Washington Territory.	Lieut. Col. B. L. E. Bonneville, 4th infantry.	2	4th infantry
Fort Dalles.....	Dalles of Columbia, Ore- gon.	Major G. J. Rains, 4th infantry.	3	3d artillery and 4th in- fantry.
Fort Lane.....	8 miles from Jacksonville, Oregon.	Capt. A. J. Smith, 1st dragoons.	2	1st dragoons
Fort Orford.....	Port Orford, Oregon	Second Lieut. A. V. Kantz, 4th infantry.	..	Detachment.....
Fort Jones	Yreka, California.....	Capt. H. M. Judah, 4th infantry	1	4th infantry
Fort Humboldt	Humboldt bay, California.	Capt. and Bvt. Lieut. Col. R. C. Buchanan, 4th infantry.	2	4th infantry
Fort Reading	Cow creek, Upper Sacra- mento, California.	Maj. and Bvt. Col. G. Wright, 4th infantry.	2	3d artillery and 4th in- fantry.
Benicia Barracks.....	Benicia, California.....	Major and Brevet Lieut. Col. G. Nauman, 3d artillery.	1	3d artillery.....
Benicia Arsenal	Benicia, California.....	First Lieut. and Bvt. Capt. C. P. Stone, ordnance.	..	Ordnance detachment
Presidio San Francisco	Near San Francisco, Cali- fornia.	Capt. E. D. Keyes, 3d artillery.	1	3d artillery.....
Fort Miller	San Joaquin river, Cali- fornia.	First Lieut. L. Loeser, 3d artil- lery.	1	3d artillery.....
Fort Tejon	Near Tejon pass, Califor- nia.	Maj. and Bvt. Lieut. Col. B. L. Beall, 1st dragoons.	1	1st dragoons
Fort Yuma	Mouth of Gila, California.	Capt. and Bvt. Maj. G. H. Tho- mas, 3d artillery.	2	1st and 3d artillery...
Mission San Diego....	Near San Diego, California	Capt. H. S. Burton, 3d artillery.	2	3d artillery.....
En route to department	Great Salt Lake City, Utah	Capt. and Bvt. Lieut. Col. E. J. Steptoe, 3d artillery.	2	3d artillery.....
Aggregate of	the department .....	.....	24	.....

ADJUTANT GENERAL'S OFFICE, Washington, November 21, 1854.

G.—General return of the army of the United States, compiled from the latest

	PRESENT.																			
	For duty.																			
	Major general.	Brigadier generals.	Adjutant general.	Assistant adjutant general (lieutenant colonel.)	* Assistant adjutants general (majors by brevet.)	* Assistant adjutants general (captains by brevet.)	* Judge advocate.	Inspectors general.	Quartermaster general.	Assistant quartermasters general.	Deputy quartermasters general.	Quartermasters.	* Assistant quartermasters.	Commissary general of subsistence.	Assistant commissary general of subsistence.	Commissaries of subsistence (majors.)	* Commissaries of subsistence (capt's.)	Surgeon general.	Surgeons.	Assistant surgeons.
General officers.....	1	2																		
Aids-de-camp to general officers.....																				
Adjutant general's department.....			1	1	4	8														
Judge advocate's department.....							1													
Inspector general's department.....								2												
Quartermaster's department.....									1	1	2	5	25							
Subsistence department.....														1		1	6			
Medical department.....																		1	20	68
Pay department.....																				
Corps of engineers.....																				
Corps of topographical engineers.....																				
Ordnance department.....																				
1st regiment of dragoons.....																				
2d regiment of dragoons.....																				
Aggregate of dragoons.....																				
Regiment of mounted riflemen.....																				
1st regiment of artillery.....																				
2d regiment of artillery.....																				
3d regiment of artillery.....																				
4th regiment of artillery.....																				
Aggregate of artillery.....																				
1st regiment of infantry.....																				
2d regiment of infantry.....																				
3d regiment of infantry.....																				
4th regiment of infantry.....																				
5th regiment of infantry.....																				
6th regiment of infantry.....																				
7th regiment of infantry.....																				
8th regiment of infantry.....																				
Aggregate of infantry.....																				
Non-commissioned staff unattached to regiments.....																				
Military Academy detachments.....																				
Principal recruiting depot, Fort Columbus, N. Y.....																				
Cavalry recruiting depot, Jefferson barracks, Mo.....																				
Recruiting depot, Newport barracks, Ky.....																				
Recruits at rendezvous and in route.....																				
Aggregate of detachments, and at depots, rendezvous, &c.....																				
Grand aggregate.....	1	2	1	1	4	8	1	2	1	1	2	5	25	1	1	1	6	1	20	68

* Two of the assistant adjutants general, (majors by brevet,) two of the assistant adjutants general, (captains by brevet,) four of the assistant quartermasters, and three of the commissaries of subsistence, (captains,) belonging also to regiments, and being reported in the strength thereof, to avoid counting them *twice*, are excluded as *staff officers* from the columns "total commissioned" and "aggregate" of their respective departments. The regimental and staff commissions held by these officers are of *unequal* grades, and hence they are not affected by the provisions of the 7th section of the act of June 18, 1846. The like remark is applicable to the *judge advocate* of the army, who is also a captain in the ordnance department.

returns, (of different dates,) corrected at the Adjutant General's office, 1854.

PRESBYT.

For duty.

Paymaster general.	Deputy paymasters general.	Paymasters.	Colonels.	Lieutenant colonels.	Majors.	Captains.	* Aids-de-camp.	† Adjutants.	† Regimental quartermasters.	First lieutenants.	Second lieutenants.	Brevet second lieutenants.	Military storekeepers.	Sergeant majors.	Quartermaster sergeants.	Principal or chief musicians.	Chief buglers.	Ordnance sergeants.	Sergeants.	Corporals.	Buglers.	Musicians.	Farriers and blacksmiths.	Artificers.	Enlisted men of ordnance.	Privates.
1	2	21	1	2	4	11	3			8	7	4	2						6	1		1	18		26	
			1	1	4	9				5	2	2														
			1	1	3	13				12	3	3	14												295	
			1		2	7		1	1	7	5	2		1		1	1		27	24	12		5		485	
				1	2	5		1	1	6	8	4			1		1		28	25	13		3		195	
			1	1	4	12		2	2	13	13	6		1	1	1	2		55	49	25		8		680	
				1	1	7		1		5	7						2		17	10	5		10		108	
			1	1	1	9			1	12	8			1	1				33	26	2	13	12		362	
				1	2	10		1	1	17	10	2		1	1				25	32	2	13	14		407	
					1	6		1	1	14	10	3		1	1				32	21	3	15	13		423	
			1		2	9		1	1	11	10			1	1	1			32	29	3	14	14		310	
			2	2	6	34		3	4	54	38	5		4	4	1	1		122	108	10	55	53		1,502	
			1		1	8		1		2	5	2		1	1				21	14		8			414	
			1		2	10		1	1	3	8	5			1	2			23	19		10			289	
				1		9		1	1	5	8	3		1	1	2			23	28		14			274	
				1	2	8		1	1	5	10	4		1	1	2			25	21		7			116	
			1	1	1	8		1	1	3	8	3		1		1			9	8		10			54	
			1		2	7		1	1	3	10	3		1	1	2			26	18		13			378	
			1	1	1	7		1	1	2	9	4		1	1	2			19	13		10			75	
				1	1	7		1	1	4	7	2		1	1				25	24		14			182	
			5	5	10	64		8	7	27	65	26		7	7	11			171	145		86			1,782	
																		72								
																			5	6	1	37	2		99	
																1			4	9		20			444	
																			6	2	2				121	
																			4	4		2			109	
																			19	6		1			121	
																1			38	27	3	60	2		894	
1	2	21	11	13	32	150	3	14	13	124	135	46	16	12	12	14	4	72	409	340	43	202	18	73	295	4,992

* The aids-de-camp being taken from regiments, and reported in the strength thereof, to avoid counting the twice, are excluded as staff officers from the columns "total commissions" and "aggregate."

† The adjutants of artillery and infantry, (12,) and *all* the regimental quartermasters, (15,) being taken from the subalterns, and accounted for in their several regiments as belonging to companies, are excluded as regimental staff officers from the columns "total commissioned" and "aggregate."

G.—General return of the army

	PRESENT.																	
	On extra or daily duty.				Sick.				In arrest or confinement.				Total commissioned.	Total enlisted.				
	General staff officers.	Field officers.	Captains.	Subalterns.	Enlisted men.	General staff officers.	Field officers.	Captains.	Subalterns.	Enlisted men.	General staff officers.	Field officers.			Captains.	Subalterns.	Enlisted men.	
General officers.....																3		
Aids-de-camp to general officers.....																	10	
Adjutant general's department.....																		
Judge advocate's department.....																		
Inspector general's department.....																	2	
Quartermaster's department.....																	32	
Subsistence department.....																	6	
Medical department.....																	89	
Pay department.....																	24	
Corps of engineers.....					1					2						3	37	58
Corps of topographical engineers.....																	24	
Ordnance department.....																	50	295
1st regiment of dragoons.....					137					56						21	26	770
2d regiment of dragoons.....					89					38						21	28	414
Aggregate of dragoons.....					226					94						42	54	1,184
Regiment of mounted riflemen.....					255					54						15	22	476
1st regiment of artillery.....					65				1	41						19	34	575
2d regiment of artillery.....					74					28						25	44	622
3d regiment of artillery.....				1	127					44						20	37	700
4th regiment of artillery.....					63			1	2	40						41	38	549
Aggregate of artillery.....				1	329			1	3	153						105	153	2,446
1st regiment of infantry.....					31					14						1	20	505
2d regiment of infantry.....					81				1	15						25	32	465
3d regiment of infantry.....					181					32						12	28	568
4th regiment of infantry.....				1	91					22						12	33	298
5th regiment of infantry.....					283					20						14	27	400
6th regiment of infantry.....					107					36						41	28	623
7th regiment of infantry.....					131					17						6	27	275
8th regiment of infantry.....					70					14						20	24	351
Aggregate of infantry.....				1	975				1	170						131	219	3,485
Non-commissioned staff unattached to regiments.....																		72
Military Academy detachments.....					3					5								158
Principal recruiting depot, Fort Columbus, N. Y.....					79					8						13		578
Cavalry recruiting depot, Jefferson barracks, Mo.....					10					14						4		159
Recruiting depot, Newport barracks, Ky.....					7					11						15		152
Recruits at rendezvous and in route.....										2						2		151
Aggregate of detachments, and at depots, rendezvous, &c.....					99					40						34		1,196
Grand aggregate.....				2	1885			1	4	513						330	725	9,214

* The "number of recruits required" is calculated for each regiment according to the stations of the several companies at the present date—the number of *privates* varying according to station, as explained in note (†) to table A, showing the legal organization of the army.

† The number of enlisted men necessary to complete the military establishment is obtained by deducting from the whole number of recruits required to fill up all the regiments, the several detachments at the Military Academy, the three depots, (Fort Columbus, Newport barracks, and Jefferson barracks,) and the recruits at

of the United States—Continued.

ABSENT.														PRESENT AND ABSENT.				* Number of recruits required.
On detached service.				With leave or on furlough.		Without leave.		Sick.		In arrest or confinement.		Total commissioned.	Total enlisted.	Commissioned officers.	Enlisted men.	Aggregate.		
General staff officers.	Field officers.	Captains.	Subalterns.	Enlisted men.	Commissioned officers.	Enlisted men.	Commissioned officers.	Enlisted men.	Commissioned officers.	Enlisted men.								
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	3	.....	3	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	10	.....	10	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2	.....	2	.....	
.....	1	2	.....	.....	1	.....	.....	.....	.....	.....	.....	4	.....	36	.....	36	.....	
.....	1	1	.....	.....	1	.....	.....	.....	.....	.....	.....	3	.....	9	.....	9	.....	
.....	1	.....	.....	.....	1	.....	1	.....	2	.....	1	6	.....	95	.....	95	.....	
.....	.....	.....	.....	.....	2	.....	.....	.....	2	.....	.....	4	.....	28	.....	28	.....	
.....	.....	3	7	6	.....	.....	.....	.....	.....	.....	.....	10	6	47	64	111	36	
.....	.....	5	12	.....	.....	.....	.....	.....	.....	.....	.....	17	.....	41	.....	41	.....	
.....	.....	1	1	12	1	2	.....	.....	.....	1	.....	4	15	54	310	364	.....	
.....	1	1	6	11	.....	4	.....	.....	4	15	.....	4	12	34	38	804	842	51
.....	.....	3	3	9	2	9	.....	.....	3	1	.....	3	11	22	39	436	475	419
.....	1	4	9	20	2	13	.....	.....	7	16	.....	7	23	56	77	1,240	1,317	470
.....	1	2	10	.....	1	2	.....	.....	1	1	.....	7	15	10	37	486	523	379
.....	.....	1	13	27	3	5	.....	.....	1	8	.....	1	18	41	52	616	668	248
.....	1	2	6	47	.....	7	.....	.....	1	.....	.....	1	10	55	54	677	731	273
.....	.....	2	8	26	3	4	.....	.....	5	16	.....	4	18	50	55	750	805	274
.....	1	2	10	63	1	3	.....	.....	.....	.....	.....	3	14	69	52	618	670	182
.....	2	7	37	163	7	19	.....	.....	7	24	.....	9	60	215	213	2,661	2,874	977
.....	.....	1	13	44	3	4	.....	.....	1	9	.....	2	18	59	38	564	602	280
.....	1	.....	5	1	1	.....	.....	.....	.....	3	.....	.....	7	4	39	469	508	375
.....	1	.....	4	16	3	4	.....	.....	2	4	.....	6	10	30	38	598	636	246
.....	.....	2	2	4	1	5	.....	.....	.....	1	.....	6	5	16	38	314	352	530
.....	.....	1	5	.....	2	7	.....	.....	3	4	.....	2	11	13	38	413	451	431
.....	.....	1	5	29	3	7	.....	.....	.....	3	.....	4	9	43	37	666	703	178
.....	.....	1	8	34	2	4	.....	.....	1	5	.....	.....	12	43	39	318	357	398
.....	2	1	5	22	2	14	.....	.....	3	10	.....	6	13	52	37	403	440	441
.....	4	7	47	150	17	45	.....	.....	10	39	.....	26	85	260	304	3,745	4,049	2,879
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	72	.....	72	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	158	.....	158	.....
.....	.....	.....	.....	4	.....	2	.....	.....	.....	.....	.....	.....	6	.....	584	.....	584	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2	.....	2	.....	161	.....	161
.....	.....	.....	.....	4	.....	.....	.....	.....	.....	.....	.....	1	.....	5	.....	157	.....	157
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	151	.....	151	.....
.....	.....	.....	.....	8	.....	2	.....	.....	.....	.....	.....	3	.....	13	.....	1,211	1,211	4,741
1	10	32	123	359	33	83	1	.....	29	81	1	52	231	575	956	9,789	10,745	13,530

rendezvous and in route. The number required for regiments and corps is 4,741; the number at the Military Academy, at depots, and in route, is 2,211; leaving 3,530 as the number of recruits yet required to fill up the establishment.

S. COOPER, Adjutant General.

ADJUTANT GENERAL'S OFFICE, Washington, November 21, 1854.

Number of recruits enlisted for mounted service

H.

ADJUTANT GENERAL'S OFFICE,
Washington, November 21, 1854.

*Statement showing the whole number of recruits enlisted in the army from the
1st of October, 1853, to the 30th of September, 1854.*

I.—GENERAL RECRUITING SERVICE.

Lieut. Col. J. J. Abercrombie, 2d Infantry, General Superintendent.

Eastport, Me.....	18
Boston, Mass.....	221
New York, N. Y.....	951
Albany, ".....	33
Oswego, ".....	2
Utica, ".....	19
Rochester, ".....	75
Buffalo, ".....	131
Whitehall, ".....	5
Philadelphia, Pa.....	193
Lancaster, ".....	32
Pittsburg, ".....	51
Harrisburg, ".....	111
Pottsville, ".....	3
Easton, ".....	29
Baltimore, Md.....	64
Cumberland, Md.....	9
Newport, Ky.....	166
Maysville, Ky.....	3
Cleveland, Ohio.....	18
Dayton, Ohio.....	7
St. Louis, Mo.....	134
Chicago, Ill.....	87
Detroit, Mich.....	1
Warrington, Fla.....	1
Fort Ripley, Min.....	1
Number of recruits enlisted for the general service.....	2,365

II.—MOUNTED SERVICE.

New York, N. Y.....	467
Philadelphia, Pa.....	22
Baltimore, Md.....	109
Cleveland, Ohio.....	29
Jefferson Barracks, Mo.....	63
St. Louis, Mo.....	30
Nashville, Tenn.....	10
Number of recruits enlisted for mounted service.....	730

III.—REGIMENTAL SERVICE.

1st regiment of dragoons.....	21	
2d regiment of dragoons.....	43	
Regiment of mounted riflemen.....	21	
Total mounted troops.....		85
1st regiment of artillery.....	92	
2d regiment of artillery.....	87	
3d regiment of artillery.....	33	
4th regiment of artillery.....	125	
Total artillery.....		337
1st regiment of infantry.....	11	
2d regiment of infantry.....	241	
3d regiment of infantry.....	27	
4th regiment of infantry.....	11	
5th regiment of infantry.....	40	
6th regiment of infantry.....	227	
7th regiment of infantry.....	23	
8th regiment of infantry.....	24	
Total infantry.....		604
Corps of sappers and miners.....		48
Detachment at West Point.....		52
Total number enlisted from October 1, 1853, to September 30, 1854.....		4,221

IV.—RECAPITULATION.

For the general service.....	2,365	
For mounted service.....	730	
By regiments—		
Dragoons and mounted riflemen.....	85	
Artillery.....	337	
Infantry.....	604	
Sappers and miners, and detachment.....	100	
		4,221
V.—Amount of recruiting funds in the hands of officers of the army September 30, 1853.....	\$13,232	05
Amount of recruiting funds advanced to recruiting officers from October 1, 1853, to September 30, 1854.....	64,963	12
		78,195 07
Amount of funds accounted for from October 1, 1853, to September 30, 1854.....	59,723	66
Balance in the hands of recruiting officers September 30, 1854.....	18,471	51

The foregoing statement indicates an improvement in the recruiting service, as compared with the year preceding. This may be chiefly attributable to the increased compensation granted to enlisted men by the act of Congress approved August 4, 1854.

The officers engaged upon the recruiting service have exhibited a careful attention to their duties, and the recruits received into the service have been subjected to a rigid examination in every respect. During the year ending September 30, 1854, 14,439 persons have presented themselves at the several rendezvous for enlistment, of whom 4,221 were accepted as effective recruits, (being 1,358 more than the year preceding,) and 10,218 were refused. The principal causes of rejection are, appearance of intemperance, ignorance of the English language, physical and mental disqualification, and minority. The improvement which has taken place in the recruiting service has enabled the officers to make better selections of men; and, in consequence, the ranks of the army, since the passage of the act of Congress above referred to, have been materially benefited. From the 30th of September last to the 10th of November, 687 recruits were enlisted.

The number of officers engaged upon the general recruiting service is as follows: for the artillery and infantry, one lieutenant colonel, (superintendent,) one major, and sixteen subalterns; for the cavalry service, one lieutenant colonel, (superintendent,) and six subalterns. Captains are not, at present, detailed for the recruiting service. The officers who were on the general recruiting service at the date of my last report, except the superintendent, were relieved on the 31st of July, 1854, by a new detail to serve for two years.

The recruiting for the mounted service is now conducted under a separate superintendency, which was established at the depot of instruction at Jefferson barracks October 29, 1854.

Respectfully submitted:

S. COOPER,
Adjutant General

HON. JEFFERSON DAVIS,
Secretary of War, Washington, D. C.

REPORT OF THE QUARTERMASTER GENERAL.

QUARTERMASTER GENERAL'S OFFICE,
Washington City, November 14, 1854.

SIR: In obedience to your order of the 4th instant, and in compliance with a provision of the regulations of the army, I have the honor to report the operations of the Quartermaster's department during the fiscal year commencing the 1st of July, 1853, and terminating the 30th of June, 1854.

At the date of my last annual report, the apparent balances in the hands of officers and agents of the department amounted, in the aggregate, to \$648,757 41

To which are to be added:

1. Remittances during the fiscal year...	\$4,266,972 91	
2. Sales of public property.....	97,498 15	
		<u>4,364,471 06</u>

Making the whole amount to be accounted for..... 5,013,228 47

From which are to be deducted:

1. Expenditures for which accounts have been received, examined, and sent to the treasury.....	4,029,018 30	
2. Deposits to the credit of the Treasurer.....	29,272 66	
		<u>4,058,290 96</u>

Leaving to be accounted for..... 954,937 51

Of this sum, \$8,550 73 is due by Captain Grant, late of the 4th regiment of infantry; \$500 by Dr. William Hammond, late assistant surgeon in the army; and \$1,449 44 by Captain S. L. Fremont, late quartermaster of the 3d artillery. As these gentlemen are out of service and no longer under the control of any military authority, but accountable to the treasury only, I consider it proper to deduct their indebtedness from the apparent balance, which will leave to be accounted for through this office \$944,437 44.

By an examination of the accounts of Captain J. L. Folsom and Brevet Captain J. H. Lendrum, for whose relief acts were passed at the last session of Congress, the indebtedness of the former appears to be..... \$207,087 83
And of the latter..... 6,205 60

Making..... 213,293 43

These officers, it is understood, will avail themselves without delay of the acts passed in their favor, and will thus reduce the apparent

balance unaccounted for the amount of their joint indebtedness, and leave a positive balance of \$731,143 91.

Nineteen officers and agents of the department, whose joint accountability amounts to \$89,027 09, have failed to render the accounts due from them at the close of the fiscal year, or to include in the accounts rendered the entire amounts for which they were then accountable. One of them (Lieutenant A. D. Tree, of 2d dragoons) has been repeatedly reported. He is accountable for \$20,782 45. It is understood that he has made disbursements, but as he renders no accounts I am compelled to report him every quarter. Another (Lieutenant W. T. Mechling) is accountable for \$6,029 20. He is said to have made disbursements, but has rendered no accounts. I recommend that prompt measures be adopted to compel both to send on their vouchers, if they have any, or to pay into the treasury the amounts respectively due.

Another, Lieutenant Loeser, is accountable for \$565 09, but it is understood that he and Lieutenant Fremont, mentioned above, lost the public money in their hands, as well as all their vouchers, in the wreck of the San Francisco; and an act of Congress will probably be necessary to settle their accounts.

Four of these officers who have ceased to disburse are accountable, severally, for the following sums, viz:

Lieutenant T. Moore, \$1,707 78; Lieutenant L. Long, \$24; Lieutenant A. Merchant, \$553 63; and Lieutenant M. R. Stevenson, \$3,172 74.

These gentlemen have been called on to pay over the sums in their hands to the quartermasters at or nearest to the stations at which they are now respectively serving. The officers whose accounts have not been received are, it is understood, either in Oregon, California, New Mexico, or the Indian country west, or en route to California and Oregon, and their accounts are probably now in the mail and on the way to Washington.

The remainder of the sum unaccounted for is distributed among one hundred and sixty-nine disbursing officers, and is applicable to the payment of the outstanding claims against the department at the close of the fiscal year, and to the service of the present year.

The supplies due from the department have been promptly furnished to those entitled to receive them. They consisted of fuel for officers and men, costing, so far as accounts have been received, \$112,070 69

Forage for an average of 8,663 public animals employed during the year, including the horses of the mounted corps, and for express service, and horses, mules, and oxen employed in the transportation of troops and supplies, and costing in the aggregate..... 741,001 98

Straw for soldiers' bedding, costing..... 3,688 74

And stationery for the public service throughout the Union, costing..... 17,350 34

Also office furniture for commanding and staff officers throughout our territories, costing..... 2,785 09

Medicines for horses and mules, costing..... 4,390 37

Travelling forges, blacksmith and shoeing tools, horse-shoes, nails, iron and steel, costing.....	\$22,401 72
And clothing and dragoon equipments, camp and garrison equipage, and small supplies for the mounted service, amounting in the aggregate to.....	336,664 29

Transportation has been furnished for all the supplies required for the army, for the troops operating in the field, for more than two thousand recruits from the recruiting depots to the regiments and companies to which they were assigned, for troops required to change their stations, in some instances from one extreme of the continent to the other, for escorts to surveying parties across the continent, and public animals and other property sent to New Mexico and California. The cost of the whole, so far as accounts have reached the office, amounts to \$1,839,376 11. Of this sum one hundred and twenty-nine thousand nine hundred dollars was paid to the masters and owners of the several steamers and other vessels employed in the relief of the troops taken from the San Francisco, wrecked during a violent storm in December last; and forty-two thousand dollars was paid to the Mail Steamship Company for demurrage on the steamer Golden Gate, detained at Panama during an outbreak of cholera among the officers and soldiers of the 4th regiment of infantry en route to California.

Repairs have been made, and buildings where necessary constructed, at the several posts throughout the Union, at a cost of three hundred and one thousand three hundred and thirty-five dollars.

No report has been received of the progress of the work on the Minnesota river, authorized by Congress in March, 1853; but as the expenditures on account of the work amount to more than nineteen thousand dollars, considerable progress has no doubt been made.

Of the works authorized by Congress on the Kansas river, (Fort Riley,) Major Ogden, who has the direction of the work, reports the erection of three double blocks of officers' quarters, and four sets of soldiers' barracks: two of the latter require shingling, flooring, and plastering. These buildings when completed will afford accommodation for four full companies. To complete the works at that post the amount included in my estimate, \$29,300, will be necessary. On the road from Fort Leavenworth to this post bridges have been erected, purchased, or hired, over all the streams but two, which can be readily bridged when required.

At the Presidio San Francisco, and at Forts Humboldt and Vancouver, buildings have been erected; and at Benicia and other posts on the Pacific extensive repairs have been made. New posts have been established in New Mexico and Texas, and repairs have been made at most of the old posts occupied by the troops. For the construction and repair of buildings throughout the Union the whole sum estimated will be required.

For the rent of quarters, barracks, storehouses, wharves, grounds for military stations in our new territories, including Texas and California, one hundred and fifteen thousand four hundred and fifteen dollars were expended; this expenditure cannot be materially reduced, but it is believed it will necessarily be increased, as new posts will have

to be occupied in Texas, where the United States own no lands, and where the sites of all posts required to be occupied must be rented. A modification of existing laws which prohibit the purchase of lands for military purposes, except by an act of Congress in each case, so as to authorize the President and Secretary of War to purchase such sites on the frontier as the security of the country and the protection of the people require should be permanently occupied, is not only desirable, but is indispensable to the efficiency of the service and the security of the treasury.

On the line of the Rio Grande, as well as on the northern frontier of Texas, extensive buildings have been erected on the lands of private individuals, all of which will ultimately revert to the owners of the lands, or will greatly increase the price of them should the government have to become the purchaser.

In connexion with this subject it may be proper to remark that there are many sites, no longer necessary for military purposes, which have become very valuable in consequence of the expenditures of the government, and the protection given to settlers in their neighborhood, which, if sold for their full value, would supply a fund sufficient, or nearly so, for all new frontier improvements. The Secretary of War has, probably, now authority to sell these sites; but whether or not a modification of the law for their sale, so as to authorize the fixing of a minimum something like their intrinsic value, below which no sale shall take effect or be considered legal, is required for the protection of the public interests. The reserves at Fort Howard, Fort Snelling, Fort Crawford, and Rock Island, should it not be made a military depot, if sold for anything like their value, would bring into the treasury more than a million of dollars. Without such a modification of the law, there is great danger, should these valuable lands be offered for sale, that unprincipled and lawless speculators will combine, and, by threats of violence, intimidate honest and peaceable citizens from bidding for them, and thus secure for themselves and their confederates the whole of them, at the minimum price of the government for its wild lands.

The balances of the several items of the appropriation now in the treasury, and in the hands of disbursing officers, will be sufficient, it is believed, for the wants of the service during the remainder of the year, except for transportation and clothing. During the last fiscal year there were many heavy charges upon the appropriation for transportation which were not foreseen, such as those for the relief of the San Francisco, demurrage for the detention of the Golden Gate and other vessels, and for general averages. In addition to which, the whole force on the frontier, and in the new territories, has been in almost constant movement, like armies in the field; and the cost of transportation has been, therefore, upon a war scale. On the first of the present month, when two-thirds of the year remained to be provided for, there was less than half the appropriation for transportation in the treasury. The reductions under the incidental head have been such that it is believed about three hundred thousand dollars can be spared for transportation from that head, and authority is respectfully asked to apply that amount. Should it be ascertained that that sum will not be sufficient for the

service during the remainder of the year, an estimate for the further deficiency can be submitted during the session of Congress.

Only sixty thousand five hundred and eighty-five dollars of the appropriation for clothing remains in the treasury. It is ascertained that accounts accruing in the fiscal year terminating the 30th of June, 1853, amounting in the aggregate to eighty thousand two hundred and ninety-four dollars and sixty-two cents, have been paid within the last fiscal year from the appropriation for that year; and during the same period the sum of fifty thousand six hundred and ninety dollars and sixty-nine cents was taken from the appropriation for clothing and applied to the settlement of paymasters' accounts at the treasury; and the appropriation received a credit of twenty-five thousand four hundred and sixty-five dollars and thirty-three cents; thus making a charge upon the appropriation, not provided for, of one hundred and five thousand five hundred and nineteen dollars and ninety-eight cents. At least a hundred thousand dollars in addition to the balance in the treasury will be necessary to provide for the service during the remainder of the year.

The estimate for the next fiscal year is, under every head, reduced to the lowest sum which a proper regard for the efficiency of the service will admit. The item for fuel is ten thousand dollars, and that for forage fifty thousand dollars, less than the appropriations for the present year, and the items for straw and stationery are the same as those for the present year.

The estimate for the incidental expenses is the same, within a small fraction, as the appropriation for this year. Mounts and remounts have been increased fifty thousand dollars. Contingencies of the army are the same. Mileage to officers, or transportation of themselves and baggage when moving on duty without troops, has been reduced twenty thousand dollars, not because the estimates have been heretofore too large, but because there is a balance of a former appropriation which it is believed will be applicable to the service of the next year.

The item for barracks and quarters has been reduced; and that for transportation is the same as for the present year. I feel more doubt about the sufficiency of this item than of any other item in the estimate. The expenditures under this head cannot be controlled, but must depend, no matter who may be at the head of the War Department, or in command of the troops, upon the exigencies of the service.

The item for clothing is greater than the appropriation for the present year, for the same reasons assigned in my last report, and for the additional reason that I have added fifty thousand dollars to meet the payments which paymasters may be called upon to make to discharged soldiers for clothing not drawn during their period of service. An appropriation is necessary on this account from the fact that clothing is always provided for the whole force in service, because it may all be called for. But many of the old soldiers, by care and economy, make a part of their clothing serve them during their whole service, and have thus a fund in reserve, which is paid to them on their discharge from the service. The value of the clothing thus undrawn goes to swell the general stock, and is always deducted from the estimate presented to Congress.

In the operations about to be commenced in Florida, I think the

service would be greatly benefited by placing a small steamer on Lake Okeechobee. A suitable boat, constructed of iron, could be taken in parts or sections to the shore of the lake, and be put together there. A boat of the kind suggested, capable of carrying a company, and towing two or more canoes, would be worth a regiment. No man is better qualified to make the best use of such a boat than the present commander in Florida, for when a captain, and acting under my orders, he explored every part of the Okeechobee in canoes or row-boats. Had I remained in Florida, I would have placed a small steamer on that lake in 1838, and I respectfully recommend that it be done now.

I respectfully ask attention to the recommendations in my last annual report as to the increase of the store-keepers of the department, the increase of the compensation and the enlargement of the sphere of duties of the ordnance sergeants, the charging of a single auditor with the settlement of all accounts of the Quartermaster's department, the allowance of a reasonable extra compensation to officers of the line temporarily employed as disbursing officers, and the improvement of the roads and other avenues of communication to and between the posts on the frontiers.

I have the honor to be, your obedient servant,

TH. S. JESUP,
Quartermaster General.

HON. JEFFERSON DAVIS,
Secretary of War, Washington City.

REPORT OF THE COMMISSARY GENERAL.

OFFICE COMMISSARY GENERAL OF SUBSISTENCE,
Washington, October 16, 1854.

SIR: I have the honor to submit the following report of the operations of this department during the past year, and to transmit herewith an estimate for the subsistence of the army for the fiscal year ending June 30, 1856.

The posts on the northern frontier, Atlantic seaboard, and western frontiers of the old States, have been furnished with subsistence by contract. The troops west of Arkansas, in Texas, New Mexico, California, and Oregon, have been supplied by purchase in the open markets of the old States and countries adjacent to the posts. At all points it is believed that the troops have been amply supplied with good and wholesome provisions.

Issues have been made to Indians at many of our posts with a beneficial influence, it is believed, in our relations with them.

The experiments to test the value of the solar evaporated salt of Syracuse, as compared with Turk's Island salt, for curing and preserving pork, are approaching their termination, and in a few months a report will be made showing the results.

Believing the prices of subsistence have reached their maximum, the price of the ration has not been increased in the present estimates beyond that of this year.

The accounts of the officers doing duty in this department have, in general, been punctually rendered; the few exceptions being caused by the character of the service, and the frequent necessity of the officer being separated from his papers.

I am, sir, with great respect, your obedient servant,

GEO. GIBSON,

Commissary General of Subsistence.

Hon. JEFFERSON DAVIS,
Secretary of War.

REPORT OF THE PAYMASTER GENERAL.

PAYMASTER GENERAL'S OFFICE,

November 9, 1854.

SIR: I have the honor to submit herewith a report of the transactions of the pay department for the fiscal year ending the 30th of June, 1854.

It will be seen by the tabular statement herewith that there remained in the hands of paymasters on the 30th of June, 1853, applicable to payments due in the first quarter of the last fiscal year, the sum of \$490,932 86, in addition to which they have received from the treasury and other sources, exclusive of amounts transferred from one to another, the sum of \$2,574,137 53, making a total to be accounted for of \$3,065,070 39.

Expended as follows:

Payments to regular troops.....	\$2,608,330 24
Payments to volunteers.....	41,053 90
Three months' extra pay to regulars.....	5,214 90
Three months' extra pay to volunteers.....	8,241 50
In paying the Military Academy.....	86,591 52
Total expended.....	2,749,432 06
Leaving a balance of.....	315,638 33

These balances have, as far as heard from, been expended and accounted for since the commencement of the present fiscal year.

As far as returns have been received the troops have all been paid to 31st of August last.

The facilities afforded by the Treasury Department for the safe-keeping of the public funds have relieved the officers of the department from serious embarrassment; and, it is believed, will prove beneficial to the government as well as the disbursing officers.

Respectfully, your obedient servant,

BENJ. F. LARNED,

Paymaster General.

HON. JEFFERSON DAVIS,

Secretary of War.

Statement showing the amount remaining in the hands of each of the disbursing officers of the Pay department, and unaccounted for, on the 1st of July, 1853; the amount remitted to each from the treasury, or turned over by other agents, during the fiscal year ending the 30th June, 1854; the amount accounted for by accounts and vouchers of expenditure, or by transfer or replacements in the treasury; and the balance unaccounted for, to be applied to payments in the first quarter of the next fiscal year.

Paymasters.	Balances in hand and unaccounted for on the 1st July, 1853.	Am't remitted from the treasury, and turned over by other agents, during the year ending 30th June, 1854.	Total received, to be accounted for.	Amount expended in paying regular troops.	Amount expended in paying volunteers.	Am't paid for "three months' extra pay" to discharged regular troops.	Am't paid for "three months' extra pay" to volunteers.	Amount expended in paying the Military Academy.	Amount turned over to other agents, or replaced in the treasury.	Total accounted for.	Balances unaccounted for, to be applied to payments in the next fiscal year.
T. J. Leslie.....	\$5,850 78	\$720,585 63	\$726,436 41	\$352,103 76	\$4,623 85	\$1,285 20	\$1,215 50	.....	\$365,480 29	\$724,708 60	\$1,727 81
A. D. Stewart.....	9,781 63	437,473 84	447,255 47	69,541 18	691 56	.....	.....	.....	358,248 79	428,481 53	18,773 94
Benjamin Walker.....	2,612 96	188,807 92	191,420 88	84,991 96	3,514 10	111 00	783 00	.....	79,179 46	168,579 52	22,841 36
E. Van Ness.....	15,622 33	130,706 77	146,329 10	141,831 87	1,333 78	132 00	21 00	.....	2,100 00	145,418 65	22,910 45
St. Clair Denny.....	9,994 14	262,811 51	272,805 65	190,190 12	12,991 29	2,537 20	3,221 00	.....	47,669 92	256,609 53	16,196 12
David Hunter.....	3,328 36	274,491 17	277,819 53	144,684 31	.....	63 00	.....	\$86,591 52	43,140 58	274,479 41	3,340 12
L. J. Beall.....	11,942 21	50,073 94	62,016 15	55,797 02	1,056 89	42 00	.....	.....	216 50	57,154 41	4,861 74
A. J. Coffee.....	127,607 07	519,013 13	646,620 20	82,469 71	1,403 02	219 00	372 00	.....	553,753 93	638,217 66	8,402 54
G. H. Ringgold.....	14,140 63	96,422 97	110,563 60	105,343 30	1,009 35	324 00	222 00	.....	253 50	107,152 15	3,411 45
Henry Hill.....	12,827 37	117,974 55	130,771 92	67,325 30	202 73	42 00	.....	.....	29,894 00	97,464 03	33,307 89
R. B. Reynolds.....	2,985 25	89,973 41	92,958 66	81,782 75	77 17	63 00	.....	.....	12 03	81,934 95	11,023 71
J. Y. Dashiell.....	14,769 29	238,802 62	253,571 91	198,817 44	183 71	105 00	.....	.....	17,044 55	216,150 70	37,421 21
S. Maclean.....	4,160 69	108,834 43	112,995 12	88,943 92	110 00	54 00	.....	.....	1,801 29	90,909 21	22,085 91
A. W. Gaines.....	3,536 66	69,141 27	72,677 93	68,108 56	332 94	150 50	198 00	.....	171 00	68,961 00	3,716 93
A. G. Bennett.....	.....	3,000 00	3,000 00	1,328 60	.....	.....	.....	.....	389 60	1,718 20	1,281 80
H. Leonard.....	45,764 44	407,925 65	453,690 09	185,302 44	9,575 36	66 00	1,112 00	.....	217,688 00	413,743 80	39,946 29
F. A. Cunningham.....	71,546 92	141,470 34	213,017 26	130,363 27	861 51	21 00	45 00	.....	80,051 65	211,342 43	1,674 83
G. C. Hutter.....	2,137 83	113,951 29	116,089 12	69,119 56	94 02	.....	.....	.....	20,000 00	89,213 58	26,875 54
A. J. Smith.....	9,018 83	143,647 97	152,666 80	146,426 50	1,210 82	.....	566 00	.....	60 00	148,263 32	4,403 48
N. W. Brown.....	11,760 81	89,366 35	101,127 16	93,069 46	487 80	.....	.....	.....	.....	93,557 26	7,569 90
A. S. Johnston.....	.....	75,203 36	75,203 36	58,126 31	698 13	.....	175 00	.....	146 50	59,145 93	16,057 43
J. R. Hagner.....	878 87	106,963 55	107,842 42	50,304 57	497 56	.....	.....	.....	48,210 10	99,012 23	8,830 19
B. W. Brice.....	9,265 79	72,810 64	82,076 43	50,867 08	.....	.....	245 00	.....	29,489 41	80,601 49	1,474 94
Cary H. Fry.....	101,400 00	59,716 32	161,116 32	91,491 25	98 32	.....	24 00	.....	50,000 00	141,613 57	19,502 75
	490,932 86	4,519,138 63	5,010,071 49	2,608,330 24	41,053 90	5,214 90	8,241 50	86,591 52	1,945,001 10	4,694,433 16	315,638 33

REPORT OF THE SURGEON GENERAL.

SURGEON GENERAL'S OFFICE,

November 8, 1854.

SIR: I have the honor to lay before you a statement of the fiscal transactions of the medical department, and a report upon the sickness and mortality of the army, for the year ending on the 30th June, 1854.

The amount of the appropriation for the medical and hospital department remaining on the 30th of June, 1853, was—

In the hands of disbursing agents.....	\$1,528 80
In the treasury of the United States.....	33,842 70
Amount appropriated per act approved March 3, 1853.....	52,000 00
Amount refunded by Colonel H. Whiting.....	1,025 92
Amount refunded by Colonel T. F. Hunt.....	548 67
Amount refunded by W. Williams.....	31 89
	<u>\$88,977 98</u>

Of this sum there has been expended on account of pay and other claims of private physicians contracted in—

1847	\$128 57
1848	597 03
1849	1,253 18
1850	2,217 65
1851	3,619 31
1852	1,771 06
1853	5,712 40
1854	8,129 31
	<u>23,428 51</u>

On account of medical supplies, &c.—

1847	5 50
1848	517 59
1849	402 08
1850	382 98
1851	674 35
1852	912 40
1853	1,721 61
1854	24,621 63
	<u>29,238 14</u>

Total amount expended.....	52,666 65
Leaving in the hands of disbursing agents.....	\$4,911 66
And in the treasury of the United States.....	31,399 67
	<u>36,311 33</u>
	<u><u>88,977 98</u></u>

It appears from the foregoing exhibit that the total expenditure on account of the medical department of the army, during the year ending on the 30th of June, 1854, was fifty-two thousand six hundred and sixty-six dollars and sixty-five cents, (\$52,666 65.) Of this sum, fifteen thousand two hundred and ninety-nine dollars and twenty cents (\$15,299 20) were paid on account of the claims of private physicians for services rendered, and four thousand six hundred and sixteen dollars and fifty-one cents (\$4 616 51) for medical and hospital supplies

purchased—both accounts originating prior to the commencement of the last fiscal year; leaving as the expenditure proper of the medical bureau for the service of that year the sum of eight thousand one hundred and twenty-nine dollars and thirty-one cents (\$8,129 31) for pay of private physicians, and twenty-four thousand six hundred and twenty-one dollars and sixty-three cents (\$24,621 63) on account of medical supplies—making a total of thirty-two thousand seven hundred and fifty dollars and ninety-four cents, (\$32,750 94.)

The annual report of the sick and wounded of the army, as consolidated in the tabular statement herewith transmitted, exhibits the following results:

The number of officers and men remaining sick on the 30th of June, 1853, was 658; and the number of cases of disease which occurred during the succeeding year was 24,998, making an aggregate of 25,656 cases that have been under medical treatment within the twelve months ending June 30, 1854.

Of the whole number of sick, 24,570 "returned to duty," 25 were placed "on furlough," 181 were "discharged service," 51 "deserted," and 258 "died;" leaving 271 "sick" and 300 "convalescents" still under medical treatment.

The mean strength of the army for the year ending June 30, 1854, was, according to the returns in this office, 8,095; and, as the number of cases of sickness reported for the same period was 24,998, the relative proportion of cases of disease to the number of officers and enlisted men in the army was 3.08 to 1; so that, on an average, each individual was sick three times during the year.

It also follows from the foregoing data, that the ratio of deaths to the number of officers and enlisted men was 1 to 31.37, or 3.18 per cent; and that the proportion of deaths to the number of cases of disease treated during the year was 1 to 99.44, or 1.005 per cent.

The increased ratio of mortality exhibited by this report, as compared with those for the two preceding years, arises from epidemic cholera, and also from the prevalence of yellow fever which so terribly ravaged a great portion of the southern and southwestern States in the summer and fall of 1853. Of the former disease there were thirty-one cases and eighteen deaths, and of the latter three hundred and forty cases are reported, of which eighty-three died.

The mortality in the army generally, during the last year, as has been shown, was greater than the ordinary average in time of peace; but the number of deaths among the officers of the medical staff, within the last sixteen months, has been extraordinarily great, the proportion being one in twelve, or eight per cent.—a mortality among officers seldom exceeded, except in war.

Although we have been called upon to mourn the loss not only of many of our number, but of some of our best and most distinguished officers, it will be doing no injustice to others, whether of the living or of the dead, to render a richly-merited tribute of respect to the memory of Surgeon Thomas G. Mower, for many years the senior surgeon of the army, its chief medical purveyor, and the presiding officer of its boards of medical examiners. During a service of forty-one years he

had frequently confided to him the highest and most responsible duties, all of which were invariably performed to the satisfaction of the department. To the judgment and discretion with which he exercised the power delegated to him as president of the army boards of medical examiners the medical staff owes much of its present efficiency and reputation; and it is hoped that the influence of his example will not be lost.

The meteorological observations commenced under the auspices of this bureau in 1819 have been steadily continued at all the military posts occupied by troops, and monthly registers thereof have been regularly transmitted to this office. The results of these observations, from the commencement to 1842, inclusive, have been published, and those from that period to 1850 have been arranged and tabulated, and are now ready for the press.

The observations taken at the stations in Texas, New Mexico, California, and in Oregon and Washington Territories, which have been established since the war with Mexico, have proved of special value to the science of meteorology, by affording the necessary data for determining the mean temperatures, fall of rain, and other climatic peculiarities of the region lying between the western and southwestern States and the shores of the Pacific. In order that the observations might be made of as much practical benefit as possible, the meteorological registers have been freely loaned to the Smithsonian Institution and to officers of the army in charge of the recent surveys for a railroad route to the Pacific; and it is to data obtained from this office that the paper on "agricultural climatology of the United States," appended to the report of the Commissioner of Patents for the year 1853, owes much of its completeness.

The army medical board for the examination of assistant surgeons for promotion, and of applicants for appointment in the medical department of the army, to which reference was made in my last annual report, convened in the city of New York on the 1st day of December, 1853, in obedience to your orders, and remained in session more than two months. By this board twelve assistant surgeons were examined; all of whom having been approved, they were recommended for promotion.

Of the forty-nine candidates for appointment in the medical staff of the army invited to present themselves for examination, thirty-three reported in person, and one by letter; two withdrew voluntarily without an examination, five withdrew at a more or less advanced period of their professional examination, three were found physically disqualified, and twenty-four were fully examined; and of these last, fifteen were found qualified for appointment. All the candidates approved by the medical board of 1851 have been commissioned, as have also four of those who received favorable reports from the last board, leaving eleven candidates legally qualified for the appointment of assistant surgeon in the army.

The numerical strength of the medical staff being inadequate to the demands of the service, a number of private physicians have been for some years past necessarily continuously employed at the different arsenals, and at military posts in the vicinity of towns; and although I

have concluded to refrain from recommending, at this time, any addition to the present number of medical officers, an increase will be absolutely necessary in the event of new regiments being added to the present military establishment. I am the more particular in making this statement, for the reason that, in the several bills before Congress at its last session, having for their object the creation of an additional military force, no provision was made for a corresponding increase of the medical department.

I cannot, consistently with my sense of duty, close this report without earnestly inviting your attention to and renewing the several recommendations made in my last annual report, and which have for their object—

1st. That soldiers acting as nurses and attendants in hospitals be allowed the extra pay authorized to other soldiers on fatigue duty by "an act approved March 2, 1819," the provisions of which were extended by "An act to increase the pay of the rank and file of the army," &c., approved August 4, 1854, by which soldiers employed on "constant labor of not less than ten days are entitled to receive twenty-five cents per day at stations east of, and thirty-five cents per day at stations west of the Rocky mountains."

2d. The enlistment of a certain number of qualified persons to serve specially as hospital stewards.

3d. That the assistant surgeons of the army be relieved from the operation of the proviso to section 1st of "An act making appropriations for the support of the army for the year ending June 30, 1846," approved March 30, 1845, by which their allowance of forage ceased to correspond with that of cavalry officers of the same grade, as established by the 24th section of "An act to increase the present military establishment of the United States, and for other purposes," approved July 5, 1838, and which is still unrepealed.

All of which is respectfully submitted.

TH. LAWSON,
Surgeon General.

Hon. JEFFERSON DAVIS,
Secretary of War.

Annual report of the sick and wounded of the army—Continued.

TAKEN SICK OR RECEIVED INTO HOSPITAL DURING THE YEAR.

Diseases of the organs connected with the digestive system.

Quarters.	Cholera.	Colica.	Cynanche parotidæa.	Diarrhoea.	Dysentæria acuta.	Dysentæria chronica.	Dyspepsia.	Enteritis.	Gastritis.	Hæmatemesis.	Hepatitis acuta.	Hepatitis chronica.	Icterus.	Obstipatio.	Peritonitis.	Tonsillitis.	Cholera epidemic.	Endo carditis.
September 30, 1853.....	32	129	3	951	171	15	37	7	25	1	3	2	1	284	11	28	1	.....
December 31, 1853.....	9	74	2	522	274	13	14	7	8	2	3	2	2	195	2	41	.....	.....
March 31, 1854.....	6	46	4	369	124	12	19	4	7	.....	4	2	2	159	1	72	.....	.....
June 30, 1854.....	31	73	2	763	140	27	17	3	13	5	4	1	5	280	1	46	30	.....
Grand total.....	78	322	11	2,605	709	67	87	21	53	8	14	7	10	918	15	187	31	.....
Causes of death.....	4			12	4	7		2	2		1				3		18	1

Annual report of the sick and wounded of the army—Continued.

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TAKEN SICK OR RECEIVED INTO HOSPITAL DURING THE YEAR.																									
Quarters.	The respiratory system.												The brain and nervous system.												
	Asthma.	Bronchitis acuta.	Bronchitis chronica.	Catarrhus.	Hæmoptysis.	Laryngitis.	Phthisis pulmonalis.	Pleuritis.	Pneumonia.	Influenza.	Gangrene of lungs.	Apoplexia.	Cephalalgia.	Chorea.	Delirium tremens.	Epilepsia.	Mania.	Melancholia.	Meningitis.	Neuralgia.	Paralysis.	Tetanus.	Congestio cerebri.	Cerebritis.	
September 30, 1853...	4	21	7	258	10	1	12	36	18	...	...	3	112	...	27	10	6	1	1	40	3	1	1	...	
December 31, 1853...	5	90	6	459	6	...	11	27	9	...	...	2	60	2	26	3	5	3	...	22	1	...	...	...	
March 31, 1854.....	6	118	9	799	5	5	4	31	24	24	...	1	72	...	23	9	3	...	1	25	...	1	1	...	
June 30, 1854.....	3	45	10	341	2	...	...	15	11	...	...	2	62	...	25	7	6	2	1	28	2	...	...	1	
Grand total.....	18	274	32	1,857	23	6	27	109	62	24	...	8	306	2	101	29	20	6	3	115	6	2	2	1	
Causes of death....	...	...	4	...	2	...	14	...	6	...	1	5	...	...	11	...	1	...	1	...	...	2	2	1	

STATE OF NEW YORK: PRINTED BY THE COMMISSIONER OF THE LAND OFFICE, 1854.

Annual report of the sick and wounded of the army—Continued.

Annual report of the sick and wounded of the army—Continued.

TAKEN SICK OR RECEIVED INTO HOSPITAL DURING THE YEAR.

Quarters.	The urinary and genital organs.										The serous exhalent vessels.			The fibrous and muscular structures.					
	Calculus.	Cystitis.	Diabetes.	Emuresis.	Gonorrhoea.	Ischuria et dysuria.	Nephritis.	Orchitis.	Stricture urethrae.	Syphillis primitiva.	Syphillis consecutiva.	Ulcus penis non syphiliticum.	Anasarca.	Ascites.	Hydrocele.	Pernio.	Podagra.	Rheumatismus acutus.	Rheumatismus chronicus.
September 30, 1853..	4	.....	3	1	85	6	1	18	12	52	28	1	4	1	.....	1	1	108	57
December 31, 1853....	.....	.....	.....	1	79	4	2	16	1	35	32	5	4	1	3	3	3	150	75
March 31, 1854.....	.....	2	1	.....	83	2	2	21	1	43	46	1	3	.....	.....	52	1	171	74
June 30, 1854.....	.....	3	.....	.....	115	5	4	23	3	62	32	.....	3	2	.....	2	.....	131	86
Grand total.....	4	5	4	2	362	17	9	78	17	192	138	7	14	4	3	58	5	500	292
Causes of death ...	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	1	2	.....	.....	.....	1	1

Annual report of the sick and wounded of the army—Continued,

TAKEN SICK OR RECEIVED INTO HOSPITAL, DURING THE YEAR.																		
Quarters.	Abscesses and ulcers.			Wounds and injuries.														
	Fistula.	Phlegmon et abscessus.	Ulcus.	Ambustio.	Amputatio.	Concussio cerebri.	Contusio.	Fractura.	Luxatio.	Punitio.	Subluxatio.	Vulnus incisum.	Vulnus laceratum.	Vulnus punctum.	Vulnus sclopeticum.	Vulnus contusum.	Anchylosis.	
September 30, 1853.....	8	520	124	25	3	2	434	26	24	1	125	123	59	21	10	7	1	
December 31, 1853.....	4	342	117	24	4	2	363	14	12	.....	138	89	52	22	12	6	.....	
March 31, 1854.....	7	282	134	21	3	8	370	17	9	3	103	101	57	23	49	10	1	
June 30, 1854.....	3	327	106	16	2	2	332	12	14	.....	118	89	38	27	19	5	1	
Grand total	22	1,471	481	86	12	14	1,549	69	59	4	484	402	206	93	90	28	3	
Causes of death .....	.....	.....	.....	1	.....	1	.....	1	.....	.....	.....	.....	1	4	26	.....	.....	

ANNUAL REPORT OF THE SICK AND WOUNDED OF THE ARMY

Annual report of the sick and wounded of the army—Continued

Annual report of the sick and wounded of the army—Continued.

TAKEN SICK OR RECEIVED INTO HOSPITAL DURING THE YEAR.

All other diseases.

Quarters.	Amnurosis.	Angina pectoris.	Cachexia.	Debilitas.	Ebrietas.	Exostosis.	Hæmorrhoids.	Hemeralopia et nyctalopia.	Hernia.	Morbi cutis.	Morsus serpentis.	Necrosis.	Odontalgia.	Ophthalmia.	Otitis.	Pericarditis.	Prolapsus ani.	Scorbutus.	Scrofula.	Splenitis.
September 30, 1853.....	2	1	12	38	99	1	34	8	12	84	3	...	52	85	37	2	2	64	1	...
December 31, 1853.....	2	6	3	33	82	...	37	6	8	31	2	...	74	67	24	1	...	6	2	...
March 31, 1854.....	1	2	...	28	73	...	26	9	9	28	1	...	54	61	20	1	...	32	2	...
June 30, 1854.....	...	...	1	45	77	...	26	9	10	35	6	1	41	80	19	2	...	93	1	...
Grand total.....	5	9	16	144	331	1	123	32	39	178	12	1	221	293	100	6	2	195	6	7
Causes of death.....	...	...	...	2	2	...	1	...	...	...	...	...	...	...	...	...	...	1	...	...

Annual report of the sick and wounded of the army—Continued.

REPORT OF THE

TAKEN SICK OR RECEIVED INTO HOSPITAL DURING THE YEAR.	All other diseases.										REMAINING.								
											Dead.	Sick.	Convalescent.	Total.					
	Suicidium.	Toxicum.	Varix.	Vermes.	Hypertrophy of heart.	Ictus solis.	Drowned.	Cause not reported.	Morbi varii.	Total.	Returned to duty.	On furlough.	Discharged service.	Deserted.					
Quarters.																			
September 30, 1853.....	.....	6	7	4	3	5	.....	.....	416	7,567	.....	7	58	13	54	.....	.....	.....	.....
December 31, 1853.....	.....	4	4	2	3	.....	.....	.....	376	6,231	.....	5	38	8	95	.....	.....	.....	.....
March 31, 1854.....	1	3	3	8	2	.....	.....	.....	325	5,389	.....	6	45	14	55	.....	.....	.....	.....
June 30, 1854.....	.....	12	6	5	1	2	.....	.....	262	5,811	.....	7	40	16	54	.....	.....	.....	.....
Grand total	1	25	20	19	9	7	.....	.....	1,379	24,998	25,656	24,570	25	181	51	258	271	300	571
Causes of death	2	2	.....	.....	.....	.....	1	1	.....	258	.....	.....	.....	.....	.....	.....	.....	.....	.....

LETTER FOR THE DEPARTMENT OF THE ARMY, WASHINGTON, D.C.

Annual report of the sick and wounded of the army—Continued.

Annual report of the sick and wounded of the army—Continued.

Quarters.	MEAN STRENGTH.		
	Officers.	Enlisted men.	Total.
September 30, 1853	453	7,978	8,431
December 31, 1853.....	480	7,496	7,976
March 31, 1854	491	7,877	8,368
June 30, 1854.....	435	7,170	7,605
Aggregate			32,380
Average.....			8,095

TH. LAWSON, Surgeon General.

REPORT OF THE CHIEF ENGINEER.

ENGINEER DEPARTMENT,

Washington, November 29, 1854.

SIR: I have the honor to report to you the condition of those branches of the public service that are committed to the superintendence of this department.

FORTIFICATIONS.

I have on so many occasions discussed, in annual and special reports, the various questions connected with a general system of defence for our exposed frontiers, that I shall now restrict myself to a mere summary of the objects and main features of the system which has now been for many years in hand; and in which, though great progress has been made, there yet remain unprotected several very important points. And I shall now offer this summary, only because the design and extent of the system have been, of late, much misunderstood and misrepresented.

It may not be inopportune to introduce a few observations on the influence exercised by sea-coast fortifications on the operations of a great war as illustrated during the present season.

These designs of our system of defence may, in general terms, be stated to be to protect, by adequate fortifications, all those points on our frontiers that, either on account of *their own proper value*, or of their *value as centres of business*, or as *establishments for naval or military preparations*, or as *bases of naval or military operations*, would, in time of war, be apt to excite the enterprise or tempt the cupidity of an enemy. A few only excepted, all our accessible points, of this nature, are to be found on our sea-coast frontier.

Among the many points on our coast liable to attack, there are gradations in value, from those for which we can hardly do too much, to such as may, without great risk, be left to means of defence to be provided on the approach of a war, or in moments of danger. It has never been intended that places of but little importance should be otherwise provided for; not, at any rate, until all the more important places had been secured, or these had grown into greater consequences.

The places of importance for which we have to provide further defences, and which (with one exception) are included in our present estimates, are New York and its navy yard, Philadelphia and its navy yard, Boston and its navy yard, Portsmouth and its navy yard, Norfolk and its navy yard, Pensacola and its navy yard, Baltimore, Charleston, Savannah, Mobile, New Orleans, Key West, and the Tortugas, (points which are to stand guard over the commerce of the Gulf of Mexico,) San Francisco, &c., &c.

Among these places, and two or three others also included in the annual estimates, there are gradations of value, undoubtedly. There is also a difference as to the progress already made in works for their protection. But there can be no doubt of the necessity of providing for each one of them by appropriations proportionate, at the same time, to its value in the system, and to the state of advancement of its defences. That there is still so much to do at some of them, is no fault of this department, which has repeatedly urged that larger appropriations were necessary to an early state of efficiency, and that by larger appropriations there would be a real saving in the ultimate cost.

The estimates for the coming year, which contemplate the prosecution of defensive works at the important places mentioned above, and also some repairs at fortifications already existing, are adjusted to previous rates of appropriations, rather than to the progress that would be most advantageous; and, therefore, I must not omit to add that, in case of urgency, large additions will have to be made to several of the items.

It may be well, moreover, here to repeat an idea that I have often presented in this connexion—namely, that time, to a certain extent, is not less necessary than money, and that, to this necessary extent, neither money, nor anything that money may effect, can be substituted for it; in other words, that adequate and reliable fortifications cannot, for the objects we are considering, be extemporized. They may be hastened by money, and there will be economy, as well as other advantages, in rapid progress; but a portion of time is indispensable in every case, and this length of time is greater, as a general rule, according to the magnitude and importance of the object to be covered. This length of time, moreover, is always greater with objects of any importance—greater, by far, than any special forecast as to impending political changes in the world can provide for. Strong and efficient permanent fortifications can be the work neither of weeks nor months; the time must be reckoned by *years*.

The augmentation, within late years, of the power of naval armaments, in the force of ships, the size of fleets, and rapidity of movement, places more and more out of the question the idea of supplying adequate resistance by sudden constructions or impromptu resorts. On the contrary, these really great modern improvements, by the speed and power they have added, make it more than ever necessary to secure an *early* provision of well-tried means of defence; they more than ever exact *powerful* defences; and they, besides, require the defence, by forts and batteries, of channels and passages that were before protected by their shallowness.

That fortifications are an approved and reliable kind of defence in such situations as ours, and that they may be made powerful enough to protect objects of the very highest value, has been demonstrated to the world in the campaign of the present year.

There have never before been naval expeditions to compare, in power and efficiency, with the allied fleets that, during the past summer and autumn, have been defied and paralyzed by the Russian fortifications in the Baltic. Confessing themselves unequal to a conflict with these batteries, after months of reconnaissance and hesitation,

these fleets are turning back into their own ports, attempting nothing, for, as compared with the enormous marine preparation, the results have been absolutely null. The naval mastery in that sea, the blockade of the Russian coasts, and all else that was accomplished, could have been as well effected with comparatively moderate means.

The rich and vast establishments that had built up, and were rapidly augmenting the Russian navy in the north, were objects worthy of the greatest efforts of the powers that undertook their overthrow. And nothing seems to have been spared that could give vigor and confidence to an enterprise overflowing with the supplies of the richest dock-yards of the world, cheered on by the acclamations of governments and people, and led by great martial experience and world-renowned gallantry.

The general result of all these vast preparations, that none can fail to see and understand, is in accordance, moreover, with the circumstances attending the only contest of the campaign—that of Bomersund—in which, for the reduction of a seacoast fortification of but little relative value or strength, notwithstanding the presence of these great fleets, a large land force was taken forward and made to apply the process of a regular siege. That the fort was only reduced by such means is certain, for we have the details of the operation. That such a proceeding was absolutely necessary in the presence of those great fleets, may not perhaps be safely insisted on. But it was a wise choice of means. And that it was resorted to is an instructive fact to all who are willing to learn in military matters from the history and practice of nations versed in all the resorts of war.

The operations of the allied navies in the Black sea are a repetition of the same instructive lessons; showing, besides, that no variations in local peculiarities, in climate, in the abilities and character of the commanders—that, in short, no circumstances, connected with a proper use of means, will materially effect the sufficiency against naval attacks of good fortifications.

Without such defences, a large division of the Russian navy, and all the Russian ports in that sea, would, undoubtedly, have been mastered in the early weeks of the season; because, neither uncovered armies, however numerous, nor hastily executed batteries, could have resisted the allied fleets. Instead of which, nothing serious could be undertaken against them, until, in the course of months, large armies had been brought a long distance, at an enormous expense.

How clearly is it seen here that the fortifications of these large Russian ports in the Black sea have governed the course, and perhaps decided the final issue, of the campaign. If they fall, it will not be because they were unable to resist these fleets, but because the time consumed by their defence of this portion of the Russian empire has been less profited of to bring succor forward to the defence than reinforcements to the attacking armies.

Whatever may be the issue of the present land attack upon Sebastopol, there can be no doubt that the seaport fortifications in the Black sea, as in the Baltic, have fully and perfectly accomplished the object for which they were designed—namely, *security* against *naval* attack. This would seem to be placed beyond all cavil or doubt. And this

carries with it the further truth, that formidable defences of that nature require, for their reduction, the presence of land forces.

This lesson is the more impressed on our minds just now, because of the magnitude and freshness of this year's illustration. But it is no new lesson; the same has been heretofore illustrated in every war in which naval powers have participated. What, for instance, but her seacoast fortifications, protected the ports of France during the long-continued preponderance of English naval power, and permitted to grow up within them the successive fleets that ventured beyond the protection of those fortifications only to be destroyed?

While we find in this view of the subject such good general grounds of confidence in a well-devised system of seacoast fortifications, the operations of the season afford other very striking facts that it becomes us not only to keep in our memories, but to cause to enter into our calculations. These are, first, the large and powerful fleets that have so suddenly, out of a condition of profound peace, been sent into distant seas, and without any effort that might not, it would seem, be made at any other time with equal facility and despatch; second, the large armies—not small expeditions such as we have heretofore seen, but armies of 30,000, 50,000, and 100,000 men—that, with like ease, apparently, and equal promptitude, with every appliance of efficiency, and every provision for support, are landed upon very distant shores.

Duly considered, these are results of great moment to us. Fortunately, several of our most valuable places, that are accessible from the ocean, are within, or near to, populous districts; so that, if well protected on the water-side, their defences may be adequate, provided their strength on the land-side be sufficient to repel sudden and powerful assaults, and provided they can be maintained even for a short period against land operations. But there are other places, and some of great importance, that, for a considerable time—much longer than was required to reduce Bomersund—can have no other reliance than the fortifications and their actual garrisons.

We have, therefore, to protect our valuable points on the sea-board from powerful naval attacks. We are also liable to be suddenly assailed by a powerful combination of fleets and armies, and in certain situations are liable to *protracted* attacks of this nature. These are real dangers—they are formidable ones; but they can be resisted by well-known means if applied in time, and with a liberal hand.

Another instructive incident of the present war, as bearing upon the matters we are considering, may, for a moment, be referred to in the case of Petropolouski, a Russian port on the northwest coast of this continent. The complete defeat and discomfiture of the combined expedition against that place affords another proof, if another were wanted, of the reliance that may be placed on sea-coast fortifications. At the same time, it affords proof that even extreme remoteness, while it makes self-reliance the more indispensable to the defence, lessens in no degree the liability to naval attacks, nor does it diminish their power.

That our system of sea-coast fortification is a good and sufficient one, may be confidently asserted. It would be strange if it were not so, considering that we have full knowledge of all that has been done and is doing in that way by other nations; and that it has been the

subject of minute and careful examination of localities, and of long deliberation and study, by men educated for, and devoting to it all their faculties. I do not hesitate to insist that there is no system superior to it on any coast, either in general adaptation to its ends, in its details of design, or in its manner of execution. It has been reproached with being too comprehensive in its scope, and too large in some of its applications. On the first point enough has already been said for this report; and I only add, as to the second, that if such a reproach were ever justly chargeable against our system, (which I cannot admit,) there is now, at any rate, no unexecuted fortification to which, with any reason, such objections can apply. Indeed, if there be any particular danger as regards the manner of completing so much of the system as is still necessary for the protection of important places, it is, that in the desire to keep down the scale of our defences, we shall overlook the magnitude of the efforts that may be made against them. Against falling into this danger, however, it would seem that the great displays of military power made during the past season by nations always ready for war, and quite likely to be the first to test our strength, ought to warn and secure us.

All the fortifications included in the estimate of the year have been sanctioned by Congress, and are in the course of construction. Before proceeding to state briefly their condition, and that of other defences in charge of this department, I must ask the approval of Congress to some projects of fortifications not yet commenced, but necessary, at important places. *The first is at New Bedford*, the third city in the Union as regards registered tonnage, a place of great wealth, and with no other defences than an old and wholly inefficient six-gun battery. *The next is for Sandy Hook*, in order to command the lower bays, and render a close winter blockade of the city of New York impracticable. *The third is for Ship Island*, Mississippi, designed to cover the eastern approaches to the city of New Orleans, and also the coast of this part of the gulf, by protecting a most excellent anchorage for our commerce and cruisers. The fourth and last now proposed is *for a tower and battery at Proctor's Landing*, at the foot of Lake Borgne, whence a good road, wholly undefended, leads directly to New Orleans. All these have been before pressed upon attention, and supported with reasons at large.

The general subject of the defence of the Pacific coast has been steadily kept in view. But the information which it has been possible to acquire thus far, though valuable, is too general in its character to warrant the basing upon it a system of sea-coast defence. General reconnaissances of the coast by a joint commission of army and navy officers, and by an engineer officer, have been for some time in our possession. These leave no doubt of the importance of fortifying several positions indicated therein as rapidly as our means will allow. But there are a number of other points, in regard to which there is less certainty, and a particular survey of all such, as well as a careful examination of the intermediate coast, must be made before the relative importance of these positions can be fixed, or we can even be certain that there do not exist others of still greater value, and which

may render it unnecessary to provide any permanent defences for some of those now prominent.

For examinations and surveys of this character, we are almost entirely dependent upon the labors of the Coast Survey. Their general reconnaissance has now covered the whole Pacific coast from San Diego to the Straits of Fuca, and surveys preliminary to final careful triangulations have been executed in a number of cases. When a complete series of these, or even a general one, is in our possession, it will be practicable to discuss the subject, and present a systematic view of what shall be found to be necessary.

At present, San Francisco, the great centre of our interests on that coast, and occupying an undoubted pre-eminence in all respects, is being pressed forward to a condition of security as fast as the means allotted to it by Congress will admit. Should that body see fit to assign to it, at any time, a sufficient sum of money to complete the works now in progress, the energetic officers conducting them give every assurance that they will complete them within twelve months from the date of the appropriations. When these works are completed, the harbor of San Francisco will be in a respectable state of defence, although one other important work, to give a cross-fire at the entrance, and some minor defences, will still remain to be constructed.

Next in importance to San Francisco is the harbor of San Diego. Its geographical position at the southern limit of our line, its ample depth of water, freedom from shoals, spacious land-locked basin, fine and easily defended entrances, all combine to give it very high value. There is no question that these great advantages should be assured to our use, as well in war as in peace, and placed beyond the reach of an enemy at the earliest day.

Between San Diego and San Francisco other bays and harbors have been distinguished in the reconnaissances referred to above, as meriting early attention. Still our knowledge of this coast may be expected to be much increased, and the relative importance of the places themselves may vary before we shall be able to take up their defence.

Northward, from San Francisco, the mouth of the Columbia river at once strikes attention. This entrance to the great river of the Pacific, which sends its branches in so many directions through an extensive country, must become the outlet for a vast and valuable commerce. Its timber and agricultural productions already contribute largely to supply the wants of the adjacent shores. The fortification of this entrance is presented by the joint commission mentioned above, as demanding speedy attention.

At the northern extremity of our Pacific possessions we have the Straits of Fuca, bordering them, and the large expanse of navigable waters connected with these straits. The entrance to the Columbia is difficult and dangerous, but the passage through these straits and the access to several fine harbors within them, as well as the navigation of Puget's sound, Admiralty inlet, and Hood's canal, by vessels of all draughts, is without difficulty. The examination of these waters is in progress by the Coast Survey, several harbors both within and without the straits having been partially surveyed; and others were examined by the joint commission in 1850; but the country is new and unsettled,

and the interests to arise from the influx of population, and which will require time for their development, are as yet only nascent. Thus we cannot now combine a harbor of refuge with a place of supplies and refitment. Still, it is very important to secure to our exclusive use at the earliest day at least one harbor near our northern limits, where our ships can find shelter from storms, and, if need be, from the pursuit of an enemy. So long as we hold San Francisco the control of our Pacific possessions cannot be wrested from us; but to afford the most moderate convenience to our shipping in time of peace, and a reasonable prospect of security in war, a post in addition, near each extremity of our coast, must be fortified. There is no difficulty in deciding upon San Diego as the southern post for this purpose; but it is not easy, with our present partial information, to select the best similar northern position. The joint commission recommended the following northern harbors and bays to be minutely surveyed, with a view to comparison and selection, placing the surveys in order of importance as they here follow, viz: mouth of Columbia river, Shoalwater bay, Scarborough harbor; Ports Lawrence, Townsend, Discovery; Protection Island, narrows of Puget's Sound; entrance of Hood's canal, Grey's harbor, mouth of Chickales river. Some of these points have been examined by the Coast Survey, but their relative value as here stated is already changed, and other positions, claiming prior attention, have presented themselves to notice.

A short statement of the present condition of the several fortifications will be given under the head of each.

Fort Mackinac, Michigan.—No work has ever been done by this department upon this old fort, but it is necessary to make some repairs, as has been urged by the officer in command, and reported by the engineer officer sent to examine.

Fort Wayne, Detroit, Michigan.—The fort is ready for the armament. Some of the wood and metal work is in need of paint. The barracks should be finished, and a fire-proof storehouse and officers' quarters erected.

Fort Porter, near Buffalo, New York.—This fort is in condition to receive its armament. No appropriation is asked.

Fort Niagara, New York.—This fort needs some repairs, and there is a great want of accommodation for troops and of store-room and hospital-room.

For such objects an estimate is made for \$6,000 in addition to the \$3,000 appropriated last year.

Balance in treasury October 1, 1854.....	\$3,000 00
Probable amount to be expended by 30th June, 1855.....	3,000 00
Estimate of amount required to be appropriated for fiscal year ending 30th June, 1856.....	6,000 00

Fort Ontario, Oswego, New York.—This work needs repairs, and some expenditures are called for on the buildings.

Fort Montgomery, Rouse's Point, New York.—The condition of the work is unchanged since last year's report. An officer has been assigned to it lately, who will prepare for applying the recent appropriation as soon as the opening of spring will allow of operations in the high latitude of the fort. This is the most important defensive work on the northern frontier, and its completion should not be delayed.

Balance in treasury October 1, 1854.....	\$14,700 80
Probable amount to be expended by 30th June, 1855....	14,700 80
Estimate of amount required to be appropriated for the fiscal year ending 30th June, 1856.....	15,000 00

Fort Knox, Narrows of the Penobscot, Maine.—The traverse of battery B has been finished, and that of battery A nearly so. The scarp of the main work is raised to the average height of $2\frac{1}{2}$ courses of 2 feet thickness, and the counter-scarp to the height of two courses. The work done during the year is as follows: 2,328 cubic yards dressed stone, laid in mortar; 800 cubic yards dry stone backing; 366 cubic yards brick masonry, in arches and galleries; 150 cubic yards beton, in foundations and covering arches; 450 cubic yards rock excavations; 9,100 cubic yards earth embankment, west glacis; 167 square yards asphaltic mastic, covering roof of batteries.

The coming year it is proposed to continue the construction of the scarp and counter-scarp walls of the main work, the counter-scarp of the galleries, and the construction and covering of the casemates.

Balance in treasury October 1, 1854.....	\$16,000 00
Probable amount to be expended by 30th June, 1855....	16,000 00
Estimate of amount required to be appropriated for fiscal year ending 30th June, 1856.....	60,000 00

Fort Preble, Portland harbor, Maine.—The old sea-wall, destroyed by a gale, should be rebuilt without delay in a permanent manner. Repairs are needed on the barracks and quarters, and it is important that the site be extended by the purchase of neighboring land.

Balance in treasury October 1, 1854.....	\$1,000 00
Probable amount to be expended by 30th June, 1855....	1,000 00

Fort Scammel, Portland harbor, Maine.—This work is in charge of a fort-keeper. A future appropriation will be necessary for this fort, but none is asked for at present.

Fort Constitution, Portsmouth harbor, New Hampshire.—No expenditures have been incurred during the year. Some repairs of buildings are necessary.

Fort McClary, Portsmouth harbor, New Hampshire.—Nothing has been done during the year. No appropriation is asked.

Fort Winthrop, Boston harbor, Massachusetts.—The excavations for the tower have been carried to the depth of the bottom of the ditch;

about 7,500 cubic yards of earth have been removed and applied to the embankment of the south glacis, and to filling up ponds adjacent to the work.

During the next year the excavations for the foundations will be finished, and the masonry of the scarp and piers advanced as much as possible. No appropriation is asked at present.

Balance in treasury October 1, 1854	\$25,573 00
Probable amount to be expended by June 30, 1855.....	25,573 00

Fort Independence, Boston harbor, Massachusetts.—The appropriation recently made for this work will be applied the coming spring.

Fort Warren, Boston harbor, Massachusetts.—The most important items of work done during the year are as follows: Three cisterns, holding about 20,000 gallons, built; 1,540 linear feet of breast-height wall, on fronts 3, 4, 5, of main work; 33 pintle-blocks put in place on front 3, and the shoulder angles of 4 and 5; ten rooms for soldiers, and one suite for officers in the casemates, have been got ready for plastering; two other suites, and ten large rooms, have been more or less advanced towards completion.

Next year it is proposed to put up the breast-height wall on No. 2, to complete the arrangements for mounting all the guns, both in the fort and in the exterior batteries, and to finish, as far as practicable, the various other operations in progress. No appropriation is asked.

Balance in treasury October 1, 1854.....	\$49,000 00
Probable amount to be expended by June 30, 1855.....	49,000 00

Protection of the site of Fort Warren, Boston harbor, Massachusetts.—The old sea-wall built nearly thirty years ago having been poorly constructed, needs to be repaired, carried up higher, and partly rebuilt, or replaced by a new wall.

Estimate of amount required to be expended for the fiscal year ending June 30, 1856	\$10,000 00
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Fort Adams, Newport harbor, Rhode Island.—Nothing has been done during the past year except placing 76 substantial wooden shutters in the embrasures, to secure the casemates against access from without, and to keep out the rain and snow.

With the recent appropriation small operations in the way of completion and preservation will be applied to various parts of the fort, and to the redoubt and wharf, and progress made in permanent exterior quarters.

Balance in treasury October 1, 1854.....	\$19,803 18
Probable amount to be expended by June 30, 1855.....	19,803 18

Fort Griswold, New London harbor, Connecticut.—Nothing has been done beyond keeping the work in order. The small balance in hand will be applied to repairing the fences around the public domain. No appropriation is asked.

Fort Trumbull, New London harbor, Connecticut.—The outer gate and port-cullis have been put up; the work is entirely finished, and in perfect order for occupation and service. The small balance in hand will be applied to building a fence around the public land, repairing roads, and paying fort-keeper's wages. No appropriation is asked.

Fort Schuyler, East river, New York.—A small amount of work has been done during the year, consisting of repairs to the sea-wall, rendered necessary by a very severe storm in April last. This wall was further injured by a severe storm and high tide which occurred in September. Such injuries render it very desirable that the wall should be completed as soon as possible. To effect this, and to complete some portions of the fort, an appropriation is asked.

Balance in treasury October 1, 1854	\$14,000 00
Probable amount to be expended by June 30, 1855.....	14,000 00
Estimate of amount required to be appropriated for fiscal year ending June 30, 1856.....	25,000 00

Fort Wood, and sea-wall on Bedlow's island, New York harbor.—A fort-keeper only has been retained for the preservation of the property at this post. The works have been suspended since May, 1852, much to their injury.

Fort Richmond, Staten Island, New York harbor.—The construction of this important work has been suspended, for want of funds, since October, 1852. Under the appropriation made in August last, the tools and machinery have been put in order and partly renewed, stock purchased, the coping of curtain of the land-front cut, the excavation of the counterscarp of the land-front opened, the foundations laid, and part of the superstructure built. The coping of the curtain will be laid this fall.

Balance in treasury October 1, 1854	\$55,000 00
Probable amount to be expended by June 30, 1855.....	55,000 00
Estimate of amount required to be appropriated for the fiscal year ending June 30, 1856.....	75,000 00

Battery Hudson, Staten Island, New York harbor.—Opportunity has been taken this season to construct a magazine for this water battery. The excavations, foundations, and part of the walls have been made, and the work will probably be finished this fall. Another magazine is needed, for which an appropriation is asked.

Estimate of amount required to be appropriated for the fiscal year ending June 30, 1856	\$5,000 00
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It is of great importance to secure the rear of this and the other works on Staten Island, for which end the United States should be the owners of a controlling position on the high ground behind. This object has been in view for many years, and an opportunity now offers to purchase the necessary land. The price asked is considered reason-

able, while the land is rising in value all the time. An appropriation is therefore now asked for the purpose.

Estimate of amount required to be appropriated for the
fiscal year ending June 30, 1856 \$42,300 00

Fort Hamilton, New York harbor.—Two cisterns have been constructed in the terreplein of this work; the exterior slope of parapet of land-fronts repaired, as also the slope above the sea-wall on the river. The recent appropriations will be applied to construction of the necessary permanent wharf, and to the most indispensable repairs of the buildings. The rise in prices, since the estimate was prepared on which these appropriations are based, will make a small additional grant necessary.

Balance in treasury 1st October, 1854 \$10,000 00
Probable amount to be expended by 30th June, 1855.... 10,000 00

Fort Lafayette, New York harbor.—Nothing has been done at this work during the year. The roof over the barbette battery will soon need repairs, as also the roof of the piazza.

No appropriation is asked at present.

Governor's island, New York harbor.—Considerable repairs of buildings and increased accommodations are needed for the troops, for which purpose an estimate is submitted.

Estimate of amount required to be appropriated for the
fiscal year ending 30th June, 1856 \$26,500 00

Fort Mifflin, Delaware river.—The recent small appropriation is in course of application to indispensable repairs of the fort and its site; but, being only half the amount asked, it is not sufficient even for these.

Fort Delaware, Delaware river.—Four courses of cut-stone masonry have been laid on the grillage of this work since last year's report, bringing the general level up from reference (0') to reference (7' 5"), and portions of two other courses, reaching up to (9' 11"), beyond which it is not proposed to go this season. The cistern arches are all turned on fronts 1, 2, and 3, and the middle arch on front 4. A large sewer for the drainage of the fort and parade has been introduced in the curtain of front 3. The entire wall was levelled off at the height (6') and the work laid off anew with great accuracy. Stone enough is on hand cut to carry the walls up to (12' 6"). The work is now in a condition to be pushed on with vigor, and an appropriation of \$200,000 is asked by the officer in charge, which might be extended to \$250,000, and even \$300,000, with ultimate economy, as well as the advantage of materially hastening the period of efficiency.

Balance in treasury October 1, 1854 \$65,000 00
Probable amount to be expended by 30th June, 1855.... 65,000 00
Estimate of amount required to be appropriated for fiscal
year ending 30th June, 1856 150,000 00

Fort Carroll, Sollers, Point flats, Baltimore harbor.—All the piles for the foundation of the sea-wall have been driven, and all the sheet-piles, except about 150, on front 5. The levelling course of the sea-wall of front 2, the sea-wall of front 3, and that of front 4 nearly, have been finished. The angle of fronts 4 and 5 has been turned. The sea-walls of fronts 1, 2, 3, and three sections of front 4, have been filled with concrete. The year's work includes 370 foundations, and 855 sheet-piles driven; 512 pieces of cut granite laid in the sea-wall by the diving-bell, besides 327 pieces disturbed by a storm, and relaid, and 340 feet of stone apron placed at the foot of the sea-wall. The next year it is proposed to make progress with the fort proper, including filling the parade with earth. The temporary wharves required in the construction of this work, being of perishable materials, are fast going to decay. It is necessary, in addition to the great importance of the fort itself, that work on it be pushed forward, in order to avoid the large expense of renewing these wharves.

Balance in the treasury 1st October, 1854.....	\$48,001 58
Probable amount to be expended by 30th June, 1855....	48,001 58
Estimate of amount required to be appropriated for the fiscal year ending 30th June, 1856	100,000 00

Fort Madison, Annapolis harbor, Maryland.—Operations have been suspended since 1846, there not being an officer available for the work. The work heretofore done includes the excavation of the ditch of front 2, and part of front 3, a portion of the breast-height wall built, three pintle-blocks and traverse-circles set, and the blocks and iron rails on hand for the remainder. A wharf was built, which needs some repairs. It is designed to complete the battery the next season ready for the armament, and put up a shot furnace. An interior tower or keep is to be provided afterwards.

Balance in treasury October 1, 1854.....	\$3,760 20
Probable amount to be expended by 30th June, 1855....	3,760 20
Estimate of amount required to be appropriated for the fiscal year ending 30th June, 1856.....	10,600 00

Fort Washington, Potomac river, Maryland.—This fort is in an efficient condition; some repairs, however, are necessary to quarters and barracks.

Fort Monroe, Old Point Comfort, Virginia.—This fort is in the same condition as last year. The appropriation recently made will be applied to the completion of the magazines on front No. 6, and to such minor repairs as there may afterwards remain means to effect. For the prosecution of operations on the redoubt an appropriation is asked.

The grant for repair of the wharf will be applied to strengthening and rebuilding that structure, in such a way that steamboats and other vessels may be able to use it, and with a view to permanence.

Balance in treasury October 1, 1854.....	\$20,000 00
Probable amount to be expended by 30th June, 1855....	20,000 00
Estimate of amount required to be appropriated for the fiscal year ending 30th June, 1856.....	55,000 00

Fort Calhoun, Hampton Roads, Virginia.—It is designed to resume work, so long suspended on this important defence of Hampton Roads, as the subsidence, which has been very slight for some years past, is believed to have now ceased. The first step will be to remove the heavy load which was placed on the masonry in 1835. When this has been done, the work of construction can go rapidly forward.

Balance in treasury October 1, 1854.....	\$18,596 00
Probable amount to be expended by 30th June, 1855....	18,596 00
Estimate of amount required to be appropriated for the fiscal year ending 30th June, 1856.....	20,000 00

Fort Macon and preservation of its site, Beaufort harbor, North Carolina.—The appropriation for repairs will be applied to restoring the level of the parapet where it is deficient, substituting brass for the decayed iron-work of doors and windows of casemates, putting in glass, repairs of floors, repairs of fence at foot of glacis, repairing wire railing of steps from parade to terreplein, stopping one or two leaks in arches, cleansing ditch, and fitting two casemates as ordnance store-rooms.

The appropriation for the site will be used to prolong inshore, and raise the two jetties nearest the point. They are now in danger of being turned by the sea.

Balance in treasury October 1, 1854.....	\$1,000 00
Probable amount to be expended by 30th June, 1855....	1,000 00

Fort Caswell and preservation of its site, Smithville, North Carolina.—Various repairs are needed by the scarp and slopes of the batteries, and by the roof and floors of the citadel. The site also requires attention.

Fort Moultrie, and protection of its site, Charleston harbor, South Carolina.—The appropriation lately granted will be applied to securing the site from injury by the sea. The parade needs grading and draining for the health of the garrison, and two additional cisterns should be built to supply water for the troops. For these purposes a small appropriation is asked.

Estimate of amount required to be appropriated for the fiscal year ending June 30, 1856.....	\$1,300 00
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Fort Sumter, Charleston harbor, South Carolina.—The labor upon this work has been regularly prosecuted, adding much to its capacity for defence. The operations of the year comprise the following objects: the construction of the covering arches of the casemates along the east, northeast, and north fronts; roofing the arches of the east and northeast fronts with concrete, and raising the parade wall in their front; the stairway piers raised to their full height, except the one at the west end of the gorge, which is eight feet above the parade; the piles for the foundations of the officers' quarters have been driven, cut off, and capped with grillages, on which the concrete foundation of the walls has been placed; the casemates of the east half of the gorge have

been studded and lathed, and considerable materials are collected for the further prosecution of the work.

The work remaining to be done is to turn the remainder of the covering arches, and all the second tin floor arches, complete the concrete roofing of the covering arches, put on the earth-filling to form the terre-plein, raise the parapet wall, lay the pintle-blocks and traverse-circles, put in the embrasures of the second tier, establish the foundations of the west barrack, build this barrack and the officers' quarters, construct a building for officers' storerooms, &c., complete the system of drainage and cisterns, and the various details belonging to the completion of the defences and the accommodation of the garrison.

Balance in treasury October 1, 1854.....	\$74,000 00
Probable amount to be expended by June 30, 1855.....	74,000 00
Estimate of amount required to be appropriated for the fiscal year ending June 30, 1856.....	80,000 00

Preservation of the site of Fort Johnson, and repair of the wharf, Charleston harbor, South Carolina.—The recent appropriation will be applied to the preservation of this important site, which controls the channel opposite Castle Pinckney. A recent storm of great severity did much injury to the works heretofore constructed at this point, and it is necessary to put them in good condition again, as well as to rebuild the wharf, which was carried away by the waves.

Balance in treasury October 1, 1854.....	\$4,200 00
Probable amount to be expended by 30th June, 1855.....	4,200 00

Repairs of quarters and barracks at Fort Johnson, Charleston harbor, South Carolina.—These repairs, commenced some years since, should be completed. Being suspended in a half executed state, the work thus far done is of but partial use, and the buildings are suffering in consequence of their incomplete condition.

Repairs of Castle Pinckney, Charleston harbor, South Carolina.—The parade and site of this work are frequently overflowed; it is essential to the health of the garrison that the parade be kept dry. The seawall has been much damaged by the late severe gale, and requires to be repaired. Other minor repairs are also needed.

Fort Pulaski, Savannah river, Georgia.—The bad health of the officer in charge has prevented the resumption of operations at this work. As soon as the sickly season is passed work will be commenced. The gale of the 8th and 9th September was destructive at this position to the dikes, which were broken, and in some places swept away. The wharves were mostly carried away; the bridges carried off, as likewise the carpenter-shop, and several small buildings and fences.

Balance in treasury October 1, 1854.....	\$19,000 00
Probable amount to be expended by June 30, 1855.....	19,000 00

Repairs of Fort Jackson, Savannah river, Georgia.—The work yet to be done comprises finishing counter-scarp and sub-scarp walls, com-

pleting scarp and wharf, making draw-bridge and machinery, embanking dikes, grading parade, arranging flank-guns, and construction of officers' and soldiers' quarters.

Balance in treasury October 1, 1854.....	\$5,000 00
Probable amount to be expended by 30th June, 1855.....	5,000 00
Estimate of amount required to be appropriated for the fiscal year ending 30th June, 1856.....	20,000 00

Fort Clinch, Amelia island, mouth of Cumberland sound, Florida.—Want of funds prevented the resumption of operations during the last winter; the coming season it is proposed to apply the recent appropriation of \$25,000 to the work. For the succeeding year a similar grant is asked.

Balance in treasury October 1, 1854.....	\$25,001 71
Probable amount to be expended by 30th June, 1855.....	25,001 71
Estimate of amount required to be appropriated for the fiscal year ending 30th June, 1856.....	25,000 00

Fort McRee, Pensacola harbor, Florida.—The platforms supporting the second tier of guns of this work are reported to be decayed; there are also some leaks through casemated arches that require attention. Additional work is required upon the exterior battery. The further protection of the site from the action of the sea requires the construction of some permanent jetties.

Balance in treasury October 1, 1854.....	\$10,000 00
Probable amount to be expended by June 30, 1855.....	10,000 00
Estimate of amount required to be appropriated for the fiscal year ending June 30, 1856.....	25,000 00

Fort Pickens, Pensacola harbor, Florida.—Nothing has been done during the past year. Slight repairs are needed in the way of cleaning water-pipes, pointing cracks, repairs of pavements, and closing breaks in asphalt of terreplein, &c.

Fort Barrancas and barracks thereat, Pensacola harbor, Florida.—The work is in the same condition as last year. The most pressing objects now is the construction of the advanced redoubt, for which, and some minor matters, and for progress on buildings for the accommodation of troops, an estimate is submitted.

Balance in treasury October 1, 1854.....	\$8,900 00
Amount to be expended by June 30, 1855.....	8,900 00
Estimate of amount required to be appropriated for the fiscal year ending June 30, 1856.....	30,000 00

Fort Morgan, Mobile Point, Alabama.—For want of an appropriation the operations of the last year have been limited to restoring and grassing the parapet where gullied by rain-storms, and some slight temporary repairs of the slating and leading of the roofs, which had been injured by the hurricane of 1852.

The recent appropriation will be applied the coming season to the most indispensable repairs, as follows: the ridges and valleys of part

of the citadel roof will be relaid, in order to obtain dry store-rooms for the ordnance, tools, &c., now stored in the building; the north magazine leaks and its roof must be repaired; the fenders of the wharf have been carried away by steamboats, thus exposing the stone piers of the wharf to overthrow: they will be renewed by logs of large size; the quarters, kitchen, and office to be repaired, including repairs of slating, leading gutters, conductors, doors, windows, hangings, fastenings, plastering, repainting, and repairs of pavements. The fencing must be restored to keep off cattle.

Fort Gaines, Dauphin island, Mobile, Alabama.—The title to this site being now perfected, and jurisdiction over it being vested in the United States, it is proposed to commence work with the small balance now in hand, the coming season, on this fort, which commands the western entrance into Mobile bay. For continuing the operations the next year an appropriation is asked.

Balance in treasury October 1, 1854.....	\$13,000 00
Amount to be expended by 30th June, 1855.....	13,000 00
Estimate of amount required to be appropriated for the fiscal year ending 30th June, 1856.....	50,000 00

Fort Pike, Rigolets, Louisiana.—Some slight repairs have been executed during the past year to this fort, which is in charge of the Quartermaster's department. The recent small appropriation will be applied to the most urgent repairs, but it will not suffice to do all that is needed.

Balance in treasury October 1, 1854.....	\$1,000 00
Probable amount to be expended by 30th June, 1855.....	1,000 00

Fort Macomb, Chef Menteur, Louisiana.—The appropriation in hand will be applied to the most urgent repairs; among which are, rebuilding the draw-bridge, repairing its pier, repairs of breast-height slope, of sustaining-walls of banquetts and traverses, and leaks in the casemates. The bayou is eating into the ground in front of the fort—a tendency which should be arrested, and for which the means in hand will not suffice.

Balance in treasury October 1, 1854.....	\$2,000 60
Probable amount to be expended by June 30, 1855.....	2,000 00
Estimate of amount required to be appropriated for the fiscal year ending June 30, 1856.....	9,500 00

Battery Bienvenue, Bayou Bienvenue, Louisiana.—Much of the wood-work of this fort needs repairing. The posts of the stockade, the breast-height, and the wooden platforms, are all injured by decay.

Tower Dupre, Bayou Dupre, Louisiana.—The slopes of this work and its levee, the tower-ditch, the stockade, and breast-height, need repair.

Fort Jackson, Mississippi river, Louisiana.—Nothing has been done since 1851 for want of funds. Next year it is proposed to complete

the exterior water-battery, including breast-height walls, magazine, pintle-blocks, and traverse-circles, and to raise and enlarge the citadel, so that it will afford accommodation for the garrison of the work. A small draining-machine is thought to be necessary at this position, by the local engineer, for the comfort and health of the garrison. The levee around the work needs repairs, and in some places reconstruction.

Estimate of amount required to be appropriated for the fiscal year ending June 30, 1856..... \$10,000 00

Fort St. Philips Mississippi river, Louisiana.—Work here has been suspended for some time for want of means. The late appropriation will be applied, during the approaching season, to the following objects: completing the facing of the scarp on the land-side on faces 3, 4, 5, 6, 7, 8, to the top of the coping; building up the scarp on the water-front on faces 9, 10, 11, 12, 13, 14, to the same height; rebuilding the breast-height walls of the upper exterior battery, and relevelling its parapet; rebuilding the relieving-arches of the new scarps, putting on the parapet, and constructing the breast-heights.

Next year it is proposed to complete the parade-walls, set the pintle-blocks and traverse-circles of the barbette guns, and grade the parade.

Balance in the treasury October 1, 1854..... \$24,751 85
Probable amount to be expended by June 30, 1855..... 24,751 85
Estimate of amount required to be appropriated for the fiscal year ending June 30, 1856..... 35,000 00

Fort Livingston, Grand Terre island, Louisiana.—There is still a little settlement at this fort, though very slight; the work can remain in its present condition until the subsidence is over. A violent storm visited the locality in August last, and nearly destroyed the jetties recently built for the protection of the site. Their effect had previously been very satisfactory. They are to be rebuilt, with loading of more ponderous masses, such as is thought will resist the force of the waves.

Balance in treasury October 1, 1854..... \$3,825 42
Probable amount to be expended by 30th June, 1855..... 3,825 42

Fort Taylor, Key West, Florida.—The work of the year includes laying grillages for piers and cisterns on all the fronts; constructing piers for casemates and cistern-arches on shore-front and in each of the bastions; completing main drains under southwest and northwest bastions; excavations for grillages, and foundations and embanking around them; collecting and breaking the island stone for concrete; extending wharf and strengthening bridge; removing part of old break-water for grillage; timber, and constructing a new smithery. The masonry executed amounts to 834 cubic yards island stone, 39½ cubic yards granite, 327 cubic yards brick, and 1,300 cubic yards concrete. 12,658 cubic yards of sand have been excavated and embanked; 3,100 cubic yards stone broken for concrete; 94 running feet added to the wharf, and 81 piles driven.

The funds available will be applied to completion of grillage-work and cistern-floors, raising piers of casemates and cistern-arches to at least the present height of scarp, continuation of scarp-wall, and provision of materials. The difficulties attendant upon submarine work are now all past as to the main body of this fort. The future operations thereon, so important to the commerce of the South and West, will be limited only by the extent of the appropriations which Congress may make. Should the next year's grant be liberal, it will suffice to enable the engineer to get ready for two tiers of guns.

Balance in treasury October 1, 1854	\$97,167 04
Probable amount to be expended by June 30, 1855.....	97,167 04
Estimate of amount required to be appropriated for the fiscal year ending June 30, 1856.....	150,000 00

Fort Jefferson, Garden Key, Tortugas island, Florida.—The operations of the last year embrace laying foundations, and raising scarp to low-water level on parts 2, 3, 4, and 5, with the construction of the coffer-dams belonging thereto; building two large cisterns; embanking the parade of the work; collecting and boating coral for concrete, and sand for masonry; working up a permanent quarters, and arranging for future supplies of materials.

The amount of work done during the year is 141 cubic yards of brick, and 2,807 of concrete masonry; 19,937 of sand embanked in parade; 4,148 yards of coral boated for concrete; 1,754 of sand boated for masonry; 2,616 piles driven in coffer-dam; 46 pairs of blinds made for windows of quarters.

It is expected that the funds now available will enable the whole of the masonry to be brought up to low-water mark; the work can then go on with great rapidity, and may, with a liberal grant from Congress for the next year, be got ready, by its termination, for all the guns of the lower tier.

Balance in treasury October 1, 1854	\$85,000 00
Probable amount to be expended by June 30, 1855.....	85,000 00
Estimate of amount required to be appropriated for the fiscal year ending June 30, 1856.....	150,000 00

Forts on the western frontier of Texas.—The officer engaged in the examination of this frontier for defensive purposes, has selected several positions proper to be occupied by works. One site has been fortified; work at other points will be proceeded with, as soon as lands can be purchased and titles obtained. To provide storage for artillery, ordnance, commissariat, medical, and engineer departments at those works, an additional grant will be needed.

Balance in treasury October 1, 1854	\$100,000 00
Probable amount to be expended by June 30, 1855.....	100,000 00
Estimate of amount required to be appropriated for the fiscal year ending June 30, 1856.....	50,000 00

Fortifications on Alcatraz island, San Francisco bay.—During the year ending September 30, 1854, all the temporary buildings have

been erected that will probably be needed in the construction of the fortifications on Alcatraz island. These include storehouses, workshops, stable, barracks, mess-house, and office. The requisite tools, implements, and machinery, have been purchased or constructed. Two wharves have been built for receiving materials, and roads of communication excavated to the localities of the different batteries. The excavation for the north and south batteries, and their flanking capponiers, are essentially finished, being made mostly in partially decomposed rocks. The scarp-wall of the left branch south battery has been raised to the coping, and the foundations prepared for its breast-height wall. The capponier on this side is not quite half finished. A portion of the concrete foundation of the scarp of the north battery has been laid.

Ten guns have been mounted in temporary batteries on the island.

The work executed includes 1,650 cubic yards of masonry; 12,200 excavation, mostly in rock; 1,179 embankment.

Balance in treasury October 1, 1854.....	\$80,000 00
Probable amount to be expended by June 30, 1855.....	80,000 00
Estimate of amount required to be appropriated for the fiscal year ending June 30, 1856	200,000 00

Fortifications on Fort Point, entrance to San Francisco bay.—The operations for the year have consisted in constructing quarters, mess-houses, &c., for a force of 300 mechanics and laborers, with workshops, storehouses, and stables; building an extensive wharf; making a plank road thence to the site of the fort, 2,100 feet; excavating 150,000 cubic yards of rock from the point, to prepare the site of the fort; purchasing and constructing machinery, tools, and implements for raising stone; mortar-making, transporting materials, &c. These preparatory operations are now very nearly completed, so that the whole of the appropriation for the current year will be applied in a few months to the masonry of the water-fronts. A much larger sum could be expended, were it available. No considerable progress towards efficiency can be made with the limited means provided.

It is believed by the officer in charge, after a year's experience and study of this work, that the fort can be finished in another fiscal year, if the means be provided by Congress. To this end, the appropriation of \$650,000 would be required.

Balance in treasury October 1, 1854	\$95,000 00
Probable amount to be expended by June 30, 1855.....	95,000 00
Estimate of amount required to be appropriated for the fiscal year ending June 30, 1856.....	300,000 00

In my last annual report I urged the necessity of an increase of the corps of engineers; in order to afford the number of officers indispensable to the execution in a proper and economical manner of the duties belonging to the corps. That report contains some general remarks touching that necessity. I propose now to demonstrate the present deficiency by a statement specifying the officers now employed, and those needed in the several operations and duties under this department.

A similar statement was communicated, with your approbation, to

the military committees of the two houses of Congress at the late session.

I propose also to explain that any augmentation should be gradual and by additions to the foot of the corps, and to give, moreover, the exact expense of the proposed increase.

Here follows a statement of the fortifications and employments now in hand, *exclusive of river and harbor works, light-house inspectorships, light-house constructions and repairs, custom-houses, marine hospitals, and other works of civil engineering assigned to the corps of engineers, some by law and some by regulation, requiring the presence and services of engineer officers, and showing the number of such officers now engaged therein, and also the number indispensable to a due execution and control of the operations—all the expenditures on the same being made by those officers.*

Designation of fortifications and employments.	Engineer officers now present.	Engineer officers now wanted.
At Fort Knox, on the Penobscot river, Maine.....	1	1
At Fort Preble and Fort Scammel, Portland harbor, Maine; and at Fort Constitution and Fort McClary, Portsmouth harbor, New Hampshire.....		1
At Fort Warren, and sea-walls of Lovell's island and Deer island, Boston harbor, Massachusetts.....	2	
At sea-wall of the Great Brewster island, Boston harbor, Massachusetts.....		1
At Fort Independence, Boston harbor, Massachusetts.....		1
At Fort Winthrop, Boston harbor, Massachusetts.....	1	
At Fort Adams, Newport harbor, Rhode Island.....		1
At Fort Schuyler, New York harbor.....	1	
At Fort Wood and Governor's island, New York harbor.....		1
At Fort Richmond and Batteries Hudson and Morton, Staten island, New York harbor.....	1	
At Fort Hamilton and Fort Lafayette, Long Island narrows, New York harbor.....		1
At engineer agency, for general engineer service, purchasing supplies, &c., New York.....	1	
At Fort Delaware, Delaware river, Delaware, and Fort Mifflin, Delaware river, Pennsylvania.....	2	
At Fort Carroll, Sollers's Point flats, Patapsco river, Maryland.....	2	
At Fort Madison, Annapolis harbor, Maryland.....	1	
At Fort Monroe, Hampton Roads, Virginia.....	1	
At Fort Calhoun, Hampton Roads, Virginia.....		1
At Fort Macon, Beaufort harbor, and Fort Caswell, mouth of Cape Fear river, North Carolina.....	1	
At Fort Sumter and Castle Pinckney, Charleston harbor, South Carolina.....	2	
At Fort Pulaski and Fort Jackson, Savannah river, Georgia.....	1	1
At Fort Clinch, Cumberland sound, and Fort Marion and sea-wall, St. Augustine, Florida.....	1	
At Fort Taylor, Key West, Florida.....	1	1
At Fort Jefferson, Garden Key, Tortugas, Florida.....	1	1
At Fort Pickens and Fort McRea, and at Fort Barrancas and barracks thereat, Pensacola harbor, Florida.....	1	
At Fort Morgan, Mobile Point, Alabama.....	1	
At Fort Gaines, Dauphin island, Alabama.....		1
At Fort Wood and Fort Pike, and Battery Bienvenue and Tower Dupre, at the eastern approaches to New Orleans, Louisiana.....	1	
At Fort Jackson, Mississippi river, below New Orleans, Louisiana.....	1	
At Fort St Philip, Mississippi river, below New Orleans, and Fort Livingston, Barrataria bay, Louisiana.....	1	

Designation of fortifications and employments.		Engineer officers now present.	Engineer officers now wanted.
At Fort Wayne, near Detroit, Michigan.....			1
At Fort Porter, at Black Rock, Lake Erie, and Fort Niagara and Fort Ontario, Lake Ontario.....			1
At Fort Montgomery, outlet to Lake Champlain.....		1	
In the Engineer department.....		2	2
On the Board of Engineers for the Atlantic coast.....			2
On the Board of Engineers for fortifications, Pacific coast.....			2
On forts, entrance to San Francisco harbor, California.....		5	1
On the Pacific frontier on general military duty.....			1
On the Texas frontier..... do.....			2
At West Point, superintendent.....	1	7	2
engaged in instruction.....	2		
in company of sappers and miners.....	4		
On the Coast Survey.....		3	1
Directing the works on the Military Asylum and Smithsonian building.....		1	
Superintending construction of buildings under Treasury Department.....		1	
Exploring the northern route for railroad to Pacific.....		2	
		47	28

In the above statement, the number of officers requisite for a proper execution of the duties confided to this branch of the military service placed at an absolute minimum. A less number at any of the forts or places must result in positive injury to the public interests, greater or less.

In relation to the above enumerated deficiencies, I could adduce striking particulars by way of showing the disadvantages, and even pecuniary losses, that unavoidably ensue from the want of an ever-present official supervision. In every instance in which additional officers are called for in the preceding table, I could, if it were not for too much lengthening these remarks, give conclusive reasons for such a call, connected with the *economical* as well as the *proper* execution of the works. The table, though liable to some modifications from year to year, gives a just average of the distribution of officers.

In this statement none of the present employments of the officers on works of river and harbor improvement are specified, although there are more than thirty such works in their charge, because it might be alleged that those are temporary, being liable to be arrested by a suspension of appropriation for such objects. And no mention is made of various other duties that officers of engineers are now performing, in addition to those connected with fortifications, the Military Academy, &c., unless they exclusively occupy the attention of the officer. For instance, three are now employed, under provision of law, as inspectors of light-houses; five in their construction or repairs; one is engaged on the extension of the Capitol, and introduction of water into Washington city and Georgetown; three are superintending construction of cus-

tom houses, &c.; these duties being in addition to their charge of fortifications and military works.

It is seen above, that there is, at this time a deficiency of 28 officers, independent of all duties upon the thirty or more harbor and river, and various other civil works. I see no reason to suppose that this deficiency can be lessened in future by any diminished demand for the services of the officers of the corps. On the contrary, the urgent calls for their services, on governmental constructions, including light-houses, custom-houses, or military asylums, navy yards, &c., all entirely independent of the system of fortifications, and the Military Academy, and company of sappers and miners; the unavoidable extension of the fortifications of the coasts, by the acquirement of Texas, and California, and Oregon; the necessity in time of war, or on its approach, of attaching to every army in the field a number of experienced engineer officers, &c., &c., show, without going into other considerations that might be forcibly presented, that the deficiency, instead of being temporary, is very certain to grow with years.

The probabilities of mistakes, of a languid or negligent execution of, and inattention to, the public interests during the absence, for the greater part of the time, of the only responsible person; the considerable expense of frequent journeys by the officers, and especially in the hire of persons to supply, as well as may be, the want of official supervision—these, and other like consequences, cannot but be inevitably connected with the present state of things.

And in the matter of mere expense, I risk nothing in asserting that the total cost to the country, of the increase herein proposed, will be less than the additional cost of the operations under this department, in extra transportation of supervising officers, in the hire of superintendents, draughtsmen, &c., &c., consequent, inevitably, heretofore, now, and in future, upon the want of an adequate number of officers of engineers.

But this want, real and pressing as it is, cannot be fully supplied in any sudden manner. If the engineer officer is wanted at all, it is because his education and his practical experience have prepared him for his peculiar functions—a preparation attested by the practice of all nations to be indispensable. And the only way for us to make sure that officers added to the corps shall possess the requisite qualifications for their growing responsibilities, will be to superadd, while they are upon the first step in rank, to the scientific elements which they bring from the Military Academy, the practical instruction only to be given by professional labors, and the future studies which these labors involve.

In countries having large wants of this nature, as well as large experience in all military matters—in France, for instance—provision is made, by a “school of application” for academical applications, during one or two years, of the scientific principles brought from the elementary school, (*École Polytechnique*) before attempting, on the ground, their practical use. We, having no such “school of application,” and being obliged to study while we work, have so much the greater need of stepping slowly and cautiously into labors involving large expenditures and grave consequences.

The officers that we design to add to the corps of engineers must

therefore gain, in the lower grades and least responsible stations, as soon as possible, but still gradually, and step by step, the professional knowledge and experience indispensable in the higher duties that await them.

The scientific education acquired at our Military Academy, by the higher graduates, varies, somewhat, with the talent of the respective classes. But it may be assumed that on an average three or four such graduates each year may be relied on as qualified by acquirement, habits of application, and talents, to go into the practical "school of application" afforded by the professional operations of the corps of engineers.

Accordingly, any scheme of enlargement should contemplate the addition, during a term of years, of a number of second lieutenants, say three or four, on the average, per annum; with corresponding promotions within the whole corps, until the augmentation shall have reached its limit—all the additions being made at the foot of the corps, by such graduates of the Military Academy, *and such only*, as shall have been recommended for appointment into the corps by the Academic Board.

It may very naturally be asked how, with such a deficiency of officers, are the duties of the engineer department now carried on? The answer is this: by multiplying the responsibilities of each officer—calling on them for still greater efforts—at the same time supplying them, though at considerable expense, with the helps we can command. But, besides the cost of these additional employees, this must result, as said before, in positive injury, greater or less: that is to say, in the reliance we are forced to place in hired agents, often entirely without experience of the kind needed, and at best but partially competent, there never can be that care and success in the execution of work, and management of the public interests, that the presence of an engineer officer would secure.

This brings us to a word or two on the expense of the proposed augmentation.

There are now in the army five brevet 2d lieutenants, exclusive of those in corps of engineers—namely, five in topographical engineers, three in ordnance, two in rifles, seven in dragoons, five in artillery, and thirty-two in the infantry.

The class of graduates in June next will supply the additional number of thirty-six, so that, allowing for casualties, there will be, then, some fifty or sixty brevet 2d lieutenants in the army. And we know, by experience, that the academy has continued to supply an excess over all vacancies in the army.

The brevet appointments of officers, in addition to the organizations proper for the several regiments and corps, are expressly provided for by law.

Taking annually three or four of these brevet second lieutenants and attaching them to the corps of engineers, will not, in any sense, be adding that number of officers to the army. If not thus attached, they would be connected with some other corps or regiment, therein to do duty, while awaiting promotion; and as these three or four graduates are to have the recommendation of the Academic Board for this assign-

ment, they must be at or near the head of their respective classes, and, therefore would, if not added to the engineers, be attached to the topographical engineers, or to the ordnance, in both of which corps the allowances are the same as in the engineers, so that the proposed assignment would cause no additional cost whatever to the government.

It may therefore be asserted that the only additional expense would be in the difference of allowances within the corps, consequent upon promotion therein; what this will amount to in the end, of course, will depend on the extent to which the augmentation is to be carried; knowing this extent, and the annual rate at which the promotions are to be made, it will be easy to calculate the additional cost each year, and the total annual addition.

Assuming that each officer is to draw *everything* in the way of *pay, subsistence, forage, servants, fuel* and *quarters*, that is allowed by law or regulation—the fuel being calculated at five dollars per cord, and it being assumed that one half the officers are to be at stations and on duties, obliging them to hire private quarters, that being about the usual proportion of officers so situated—the cost of such quarters being taken moreover in all cases at the rates paid in this city, the increased allowances on promotion will be as follows:

Promotion of second lieutenants to first lieutenants—no addition.

Do first lieutenants to captains.. \$271 79 per annum.

Do captains to majors..... 581 75 do

Do majors to lieutenant-colonels.. 222 00 do

Assuming now that, at the end of seven years, there shall have been added two lieutenant-colonels, four majors, twelve captains, and twelve lieutenants, making thirty in all, the total additional expense annually to the nation will be \$6,092 48; but, within that period, the twelve captains will have been supplied under existing law, so that in fact the additional expense annually chargeable against this proposition will be only \$2,831—resulting from the promotion of four captains (\$2,327) and the promotion of two majors (\$504.)

I have given no other details than those required to follow and test my calculation; but it must be here stated that it is only when the whole supposed addition shall have been made, that is to say, at the end of seven or eight years, when the whole thirty officers shall have been added, that the annual increase of cost will reach the sum of \$2,831; it will be less than that for every preceding year, and afterwards no more than that.

Now, to say nothing of the injury to the public interests before mentioned, this sum does not compare with our actual outlays consequent upon the want of officers—in the hire of persons to take charge of engineer operations of various kinds, and as draughtsmen—in cost of extra traveling, &c., &c.; for instance, I have been obliged to keep draughtsmen employed in this office on works purely technical and appropriate to engineer officers, at an expense, for the year just elapsed, of \$2,809 68; and there has been nothing peculiar in the demands of the year, nothing but what must be continued in future years, unless the number of officers is increased.

I say nothing of the propriety and justice of making corresponding promotion within the corps, beyond stating that all the present majors

have been such more than sixteen years; the oldest captain has held his present rank more than eighteen years, and the next seven captains have been such more than sixteen years.

I deem it quite important that the law providing for an increase should require that it be made by an average annual addition to the foot of the corps of (three or four) graduates for — years, specifying and restricting the augmentations for the several grades.

As the deficiency is severely felt at this moment, and can only be gradually supplied, it is very important that the increase should be commenced at the earliest day practicable.

On this subject I beg to refer to an able report, made by the Military Committee of the House in 1851—see report number twenty-nine, second session thirty-first Congress, and also to my annual report to the Secretary of War, November, 1850—see Executive Document, number one, page 342, second session thirty-first Congress.

In a conscientious discharge of duty, without any personal interest, present or prospective, in the matter, and in a way which seems to me to leave no room for cavil or objections, having shown the actual need of an increase, the proper mode of supplying the need, and the trivial expense to be incurred, I earnestly invoke the prompt support demanded for it by the public interest.

Here is the place for me to present the importance of an increase of the sapper, miner and pontonier force. The single company now authorized has rendered much valuable and efficient service during the past year and previously. But its numbers have proved too small to fulfil the several purposes contemplated in its creation; indeed the calls upon it have been so numerous, that, as to some of these purposes, nothing could be done. So largely have detachments been made from the company for special purposes, that it has been possible to retain at West Point only a skeleton, so reduced as to suffice merely for the practical instruction of the cadets in siege and field operations. It has always been designed to station a few engineer soldiers at each fort under construction, and at our principal finished forts; their technical information, and their relation to the government, so different from that of the employés temporarily hired, give us confidence that by so doing, economy and efficiency in work in progress will be promoted; while the daily condition of finished works will be observed, the commencement of deteriorations prevented or arrested, and their minor details maintained in the best order for prompt use. But we find ourselves unable to make detachments for these purposes at present, and I therefore recommend that Congress be asked to grant, the approaching session, one company in addition to the existing one, and on the same organization.

MILITARY ACADEMY.

The customary annual report of the Board of Visitors for the last year is transmitted herewith. I need not say anything in addition to their testimony to the value to the country of this school of military instruction. I have not been able to visit the academy during the last year, but feel assured that the establishment continues to work harmoniously, successfully, and with constant progress, in effecting the objects for which it was instituted. The able and unremitting exertions of the superintendent and the academical and military staff of the academy are borne testimony to in the report of the Board of Visitors.

The extension of the course of studies from four to five years, urged for some years past by friends of the academy, has been determined on, and the class which entered in July was accordingly divided into a *fourth* and a *fifth* class. The academical arrangements and progress of the elder cadets will not be disturbed by the change, but all succeeding classes will pursue a five years' course of studies.

The advantages of the new system are many and manifest. While the general scientific course of studies is regarded as ample, and will not be further developed, other subjects have heretofore been imperfectly attended to for want of time. The philosophy of the English language, composition and elocution, are important parts of the education of an officer, to which heretofore very little attention could be given. Mental and moral philosophy, general and military law and evidences, and the study of the Spanish language, as well as the above, will now receive due attention; and military engineering, reconnoissances, artillery, the tactics of the special arms, and their subdivisions, will be pursued upon a more expanded scale, while, withal, the cadet will be somewhat relieved from the pressure of mental labor which has been gradually much increased.

The most important items of the estimate of the expenses of the military academy for the next fiscal year are as follows:

For current and ordinary expenses.....	\$35,070 00
For increase and expense of the library.....	1,000 00
For board of visitors.....	4,160 00
For forage of artillery and cavalry horses.....	8,640 00
For replacing dead and worn-out horses.....	1,000 00
For repairs and additions to professors' quarters.....	5,000 00
For commencement of officers' quarters.....	20,000 00
For furnishing hospital cadets.....	500 00
	75,370 00

It will be noticed that separate from the items which contemplate the commencement of quarters for the officers on duty at the academy, and the refurnishing the cadets' hospital, the total of the above estimate is \$54,870

On the subject of officers' quarters I desire to say a few words.

The importance of commencing quarters for the officers of the army stationed at the Military Academy has been heretofore urged by me, as well as by the annual Board of Visitors, including the board of the present year. The buildings appropriated to the staff of the academy are by no means adequate to the accommodation of the officers on duty with it. Most of these buildings are assigned to the heads of departments, and other gentlemen employed in the administration of the institution, from civil life. Only a portion of the army officers necessarily present, and occupied in the task of instruction, can be provided with quarters in the remainder of these houses; the others have for some time, of necessity, been occupying rooms in the cadets' barrack, a state of things objectionable on many accounts, as respects both officers and cadets.

Moreover the best interests of the academy demand that service at it should be made attractive to the army, so that competent and suitable officers may be led to accept, with willingness, the posts of instructors and other positions thereat. No inducement is of a more inviting character than sufficient and convenient quarters, especially if the officer have a family. As the case now is, many officers are obliged either to submit to the discomforts and annoyances of rooms in the cadets' barrack, or to board at the hotel, at prices entirely beyond the means supplied them by government. Consequently, service at the Military Academy, instead of being sought after, even by those young officers who desire to advance themselves in professional knowledge, (and who may therefore be presumed to be the most suitable as instructors for the cadets,) has come to be often very unacceptable, though not to be avoided.

On this subject I cannot do better than to present the language of the able officer now in charge of the academy. He says, "I think it would be to the interests of the academy that the duty should be made desirable, so as to secure the willing service of those most competent," &c., &c., &c. "To induce officers to study and prepare themselves for the position, some advantages and permanency ought to be secured to them, and quarters for a family is a great object."

I have to request, therefore, that application may be made to Congress at the approaching session for a grant of \$20,000 *for commencement of officers quarters* at the Military Academy,

A small appropriation is also desired for *purchasing furniture for the cadets' hospital*. The present furniture is reported as being completely worn out, and unfit for use; \$500 will suffice for this purpose.

I desire also to call your attention to a few other points. I regard it as important that a professorship of ethics be constituted, independent of the chaplaincy of the academy. The duties of such a professorship, much enlarged by the adoption of the five years' programme, and embracing instruction in English grammar, geography, history, composition and elocution, rhetoric, logic, moral and intellectual philosophy, international, constitutional and military law, rules of evidence and practice of courts martial, are varied and extensive enough to tax to the utmost any incumbent of the chair; while a chaplain who gives to his peculiar duties all the labor, time and attention that their due

discharge will exact, at a post so large and populous as West Point, cannot be expected to have any time at his command for other purposes; and if, from the necessity of the case, he must combine the duties of a professor with his clerical functions, one, if not both of his charges must suffer from unavoidable neglect.

It is also desirable that the instruction in artillery and cavalry should be conducted under separate heads. The two subjects have nothing in common, except that the practice of their tactical evolutions require horses in each case; but these can be so used, under a division of studies, as well as now. The manifest disadvantage of grouping together such incongruous pursuits should no longer continue.

The propriety of a small increase of accommodation in the building occupied by the professors has been acquiesced in by Congress, by an appropriation for the purpose; the sum granted, however, having proved inadequate to complete the designed improvements, an additional grant is asked this year.

The pay of the professors of French and drawing still continues to be less than that of their associates in the academic staff; this disparity, it is hoped, may be removed. The increased expense of living, and in the case of one of these professorships, the large accession of labors just determined on make this measure one of mere justice.

The explanation of the estimate by the superintendent, as well as of the detailed estimates of the several departments, which go to make up the above general statement, is appended to this report.

I now give a very interesting statement showing the condition in life of the cadets for the last thirteen years. It must be understood that this information is derived from the cadets themselves.

Statement exhibiting the condition in life of the cadets of the Military Academy, West Point, for the last thirteen years, from 1842 to 1854, inclusive.

	1842.	1843.	1844.	1845.	1846.	1847.	1848.	1849.	1850.	1851.	1852.	1853.	1854.
Parents are or were farmers or planters.....	59	61	61	68	72	67	69	75	70	63	67	58	66
Do.....do.....mechanics.....	14	12	15	22	22	25	22	21	16	14	14	13	12
Fathers.....do.....judges or lawyers.....	27	25	30	35	33	30	29	23	34	33	34	35	36
Parents.....do.....merchants.....	18	15	23	27	29	29	31	38	36	38	35	35	39
Do.....do.....boarding-house or hotel keeper.....	5	2	4	3	7	6	4	2	2	2	3	3	5
Fathers.....do.....physicians.....	12	15	15	13	21	19	21	21	18	14	14	13	9
Do.....do.....of the army, navy, or marine corps.....	14	16	16	13	11	13	17	17	18	22	24	27	28
Do.....do.....clergymen.....	4	6	6	6	5	3	3	4	4	4	3	5	4
Do.....do.....in the civil employment of the general and State governments.....	5	15	16	9	5	2	3	7	7	8	10	11	14
Miscellaneous—as bank officers, editors, professors, engineers, mas- ters of vessels, &c.....	15	11	15	23	35	36	41	24	32	30	30	26	14
Occupation not stated, or no occupation.....	48	34	23	17	1	2	2	8	7	11	13	7	10
Total.....	221	212	224	236	241	232	242	240	244	239	247	233	237
Of these numbers, there are without fathers living.....	26	57	44	48	42	41	54	48	40	45	36	35	29
Do.....do.....do.....father or mother living.....	22	16	18	15	21	20	18	16	26	17	19	17	15
Total orphans.....	48	73	62	63	63	61	72	64	66	62	55	52	44
Of these numbers the parents are stated to be in moderate circum- stances.....	.....	156	150	164	192	182	193	203	215	207	218	206	206
Of these numbers the parents are stated to be in reduced circum- stances.....	182	26	26	36	35	38	40	29	25	16	9	8	8
Of these numbers the parents are stated to be in indigent circum- stances.....	.....	6	8	8	8	8	4	4	2	2	.....	.....	1
Of these numbers the parents are stated to be independent in life.....	.....	6	10	12	6	4	5	4	2	14	20	19	22
Of these numbers the parents are stated to be in unknown circum- stances.....	39	18	19	16	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total.....	221	212	224	236	241	232	242	240	244	239	247	233	237

List of the officers, professors, and cadets, of the United States Military Academy, September 30, 1854, showing the name, rank, where born, and the State or country from which appointed.

ACADEMIC STAFF.

Names.	Rank.	Corps or regim't.	Where born.	Appointed from.	Department.
Robert E. Lee	Capt. & bvt. colonel.	Engineers	Virginia	Milit'y academy.	Superintendent and commandant.
Dennis H. Mahon, LLD.	Professor .....	.....	New York	Engineer corps..	Professor civil and military engineering.
Gustavus W. Smith	1st lieut. & bvt. capt.	do.....	Kentucky	Milit'y academy.	Assistant professor of engineering.
George L. Andrews	2d lieutenant	do.....	Massachusetts	do.....	Acting assistant professor of engineering.
Wm. H. C. Bartlett, LLD.	Professor .....	.....	Pennsylvania	Engineer corps..	Professor of natural and experimental philosophy.
Joseph J. Reynolds, AM.	1st lieutenant	3d artillery	Kentucky	Milit'y academy.	Assistant professor of philosophy.
Edward D. Stockton	do.....	1st infantry	do.....	do.....	Acting assistant professor of philosophy.
Joseph H. Wheelock	2d lieutenant	4th artillery	Massachusetts	do.....	Do.
Albert E. Church, LLD.	Professor .....	.....	Connecticut	3d artillery	Professor of mathematics.
William G. Peck, AM.	1st lieutenant	Top. Engineers..	do.....	Milit'y academy.	Assistant professor of mathematics.
Delavan D. Perkins	do.....	4th artillery	New York	do.....	Acting assistant professor of mathematics.
Absalom Baird	do.....	1st artillery	Pennsylvania	do.....	Do.
Chauncey McKeever	do.....	3d artillery	Maryland	do.....	Do.
James Thompson	2d lieutenant	2d artillery	New York	do.....	Do.
Alex. J. Perry	do.....	do.....	Connecticut	do.....	Do.
Jacob W. Bailey, AM.	Professor .....	.....	Massachusetts	1st artillery	Professor chemistry, mineralogy, and geology.
Edward C. Boynton	1st lieut. & bvt. capt.	.....	Vermont	Milit'y academy.	Assistant professor chemistry, mineralogy, and geology.
Caleb Huse	2d lieutenant	do.....	Massachusetts	do.....	Act'g assist't prof. chemistry, mineralogy, and geology.
Rev. Wm. T. Sprole	Professor .....	.....	Maryland	Dist. Columbia..	Chaplain, and professor ethics and English studies.
Henry Coffee, AM.	1st lieut. & bvt. capt.	do.....	Georgia	Milit'y academy.	Assistant professor ethics and English studies.
Charles C. Gilbert	1st lieutenant	1st infantry	Ohio	do.....	Acting assistant professor ethics and English studies.
Wm. Silvey	do.....	1st artillery	do.....	do.....	Do.
Joshua W. Sill	2d lieutenant	Ordnance corps .	do.....	do.....	Do.
Robert W. Weir, N. A.	Professor .....	.....	New York	New York	Professor of drawing.
Richard S. Smith	1st lieutenant	4th artillery	Pennsylvania	Milit'y academy.	Assistant professor of drawing.
Thos. H. Neill	do.....	5th infantry	do.....	do.....	Acting assistant professor of drawing.
George W. Cullom	Captain	Engineers	New York	do.....	Instructor of practical military engineering.
Quincey A. Gillmore	2d lieutenant	do.....	Ohio	do.....	Assistant instructor of practical military engineering.
Thos. L. Casey	do.....	do.....	New York	do.....	Do.
Hyacinth R. Agnel	Professor .....	.....	.....do.....	New York	Professor of the French language.
Theophilus d'Orémicolx..	1st lieutenant	1st infantry	France	do.....	Assistant professor of the French language.

List of the officers, professors, and cadets, &c.—Continued.

Names.	Rank.	Corps or regim't.	Where born.	Appointed from.	Department.
John H. Greland	1st lieutenant	4th artillery	Pennsylvania ...	Milit'y academy.	Acting assistant professor of the French language.
Samuel F. Charfin	do.....	1st artillery	Illinois	do.....	Do. do.
Wm. H. F. Walker	Capt. & bvt. lt. col..	6th infantry	Georgia	do.....	Command't of cadets and instructor of infantry tactics.
Anderson D. Nelson	1st lieutenant	do.....	Kentucky	do.....	Assistant instructor of infantry tactics.
Henry B. Clitz	do.....	3d infantry	New York	do.....	Do. do.
Cadmus M. Wilcox	do.....	7th infantry	North Carolina ..	do.....	Do. do.
Milton Cogswell	2d lieutenant	8th infantry	Indiana	do.....	Do. do.
Fitz John Porter	1st lieut. & bvt. maj.	4th artillery	New Hampshire ..	do.....	Instructor of artillery and cavalry.
John Gibbon	1st lieutenant	do.....	Pennsylvania	do.....	Assistant instructor of artillery.
Delos B. Sackott	do	1st dragoons	New York	do.....	Assistant instructor of cavalry.
Robt. Ransom, jr.	2d lieutenant	do.....	North Carolina ..	do.....	Do. do.
Patrice de Janon	Instructor	do.....	Carthage	New York	Instructor of the sword exercise.

MILITARY STAFF.

James B. Fry	1st lieutenant	1st artillery	Illinois	Milit'y academy.	Adjutant.
John M. Cuyler	Surgeon	Med. Departm't.	Georgia	Georgia	
Joseph K. Barnes	Assistant surgeon ..	do.....	Pennsylvania	Pennsylvania	
Richard S. Smith	1st lieutenant	4th artillery	do.....	Milit'y academy.	Quartermaster, and assistant commissary subsistence and treasurer.

List of the officers, professors, and cadets, &c.—Continued.

CADETS.

No.	Names.	Where born.	Whence appointed.
<i>First Class.</i>			
1	Cyrus B. Comstock	Massachusetts	Massachusetts
2	Cornelius Van Camp	Pennsylvania	Pennsylvania
3	Godfrey Weitzel	Ohio	Ohio
4	James B. Wheeler	North Carolina	North Carolina
5	Ebenezer Gay	New Hampshire	New Hampshire
6	George H. Elliott	Massachusetts	Massachusetts
7	Samuel Breck, jr	do.....	do.....
8	Michael P. Small	Pennsylvania	Pennsylvania
9	John V. D. Dubois	New York	New York
10	Francis A. Shoup	Indiana	Indiana
11	John W. Turner	New York	Illinois
12	Alex. S. Webb	do.....	New York
13	Daniel McM. Gregg	Pennsylvania	Pennsylvania
14	James Wheeler, jr	New York	New York
15	Frederic L. Childs	Maine	Large
16	Francis L. Vinton	do.....	do.....
17	Francis R. T. Nicholls	Louisiana	Louisiana
18	Albert V. Colburn	Vermont	Vermont
19	John R. Church	Georgia	Georgia
20	Lewis Merrill	Pennsylvania	Pennsylvania
21	Wm. B. Hazen	Vermont	Ohio
22	Charles W. Thomas	Maine	Large
23	Alfred T. A. Torbert	Delaware	Delaware
24	Edward L. Hartz	Pennsylvania	Pennsylvania
25	George D. Ruggles	New York	New York
26	Clarence E. Bennett	do.....	do.....
27	W. W. Averell	do.....	do.....
28	Jas. H. Hill	Maine	Large
29	Marcus A. Reno	Illinois	Illinois
30	Timothy M. Bryan	Pennsylvania	Pennsylvania
31	Jesse K. Allen	Tennessee	Illinois
32	Wm. R. Pease	New York	New York
33	Henry M. Lasell	Massachusetts	Massachusetts
34	Henry W. Freedley	Pennsylvania	Pennsylvania
35	Robt. C. Hill	North Carolina	North Carolina
36	George McG. Deck	Pennsylvania	Pennsylvania
<i>Second Class.</i>			
1	David C. Houston	New York	New York
2	Miles D. McAlister	do.....	Michigan
3	George W. Snyder	do.....	New York
4	Charles C. Lee	South Carolina	North Carolina
5	A. Parker Porter	Pennsylvania	Pennsylvania
6	Orlando M. Poe	Ohio	Ohio
7	Henry V. De Hart	New York	Large
8	Guilford D. Bailey	do.....	New York
9	George D. Bayard	New Jersey	Large
10	Herbert A. Hascall	New York	New York
11	Wm. Gaston	North Carolina	Large
12	John B. Shinn	New Jersey	Ohio
13	Edmund C. Bainbridge	Virginia	Large
14	Hylan B. Lyon	Kentucky	Kentucky
15	James P. Major	Missouri	Mississippi
16	Joseph H. Taylor	Kentucky	Large
17	Lorenzo Lorain	Pennsylvania	Pennsylvania
18	Wesley Owens	Ohio	Ohio
19	Wm. B. Hughes	Tennessee	Tennessee
20	Richard Lodor	New York	New Jersey
21	Thomas W. Walker	Indiana	Indiana
22	James W. Forsyth	Ohio	Ohio

List of the officers, professors, and cadets, &c.—Continued.

No	Names.	Where born.	Whence appointed.
23	John F. Ritter	Pennsylvania	Pennsylvania
24	John Bennett	Ohio	Ohio
25	George Jackson	do	Virginia
26	Herman Biggs	New York	New York
27	Thomas C. Sullivan	Ohio	Ohio
28	John K. Mizner	New York	Michigan
29	Jeremiah H. Gilman	Maine	Maine
30	Thomas E. Miller	Kentucky	Kentucky
31	John Tipton	Indiana	Indiana
32	Lumford L. Lomax	Rhode Island	Large
33	John W. Barriger	Kentucky	Kentucky
34	Wm. H. Jackson	Tennessee	Tennessee
35	James McMillan	New York	New York
36	Samuel S. Carroll	District of Columbia	District of Columbia
37	Owen K. McLemore	Alabama	Alabama
38	Hamilton S. Hawkins	South Carolina	Large
39	Charles B. Stivers	Kentucky	Kentucky
40	James B. S. Alexander	Virginia	Virginia
41	John C. Frary	New York	Indiana
42	Wm. T. Gentry	Indiana	do
43	Israel C. Morris	Pennsylvania	Pennsylvania
44	A. Sinclair Cunningham	Virginia	Large
45	Brayton C. Ives	New York	New York
46	Frank S. Armistead	Virginia	Large
47	J. McLean Hildt	Pennsylvania	do
48	John B. Fort	Louisiana	Louisiana
49	Fitzhugh Lee	Virginia	Large
50	Richard S. C. Lord	Ohio	Ohio
51	Jacob Sharp	New York	New York
52	Wm. P. Sanders	Kentucky	Mississippi
53	Herbert M. Enos	New York	New York
<i>Third Class.</i>			
1	John C. Palfrey	Massachusetts	Massachusetts
2	George C. Strong	Vermont	do
3	Richard K. Meade, jr.	Virginia	Virginia
4	C. Porter Alexander	Georgia	Georgia
5	J. L. K. Smith	New York	Large
6	Henry M. Robert	South Carolina	Ohio
7	Thomas S. Baylor	Virginia	Virginia
8	Wm. P. Smith	do	do
9	George A. Kensel	Pennsylvania	Kentucky
10	Charles H. Morgan	New York	New York
11	John M. Corse	Pennsylvania	Iowa
12	Thomas J. Berry	Georgia	Georgia
13	Oliver H. Fish	Kentucky	Kentucky
14	Selden S. Hetzel	District of Columbia	Large
15	Haldeman T. Putnam	New Hampshire	New Hampshire
16	Charles J. Walker	Kentucky	Kentucky
17	George A. Cunningham	Georgia	Alabama
18	George H. Weeks	New Hampshire	Maine
19	Augustus G. Robinson	Maine	do
20	Harry C. McNeil	Mississippi	Texas
21	John S. Marmaduke	Missouri	Missouri
22	Francis Beach	Connecticut	Connecticut
23	Ed. M. Crumpton	Illinois	Indiana
24	Manning M. Kimmell	Missouri	Missouri
25	Solomon Williams	North Carolina	North Carolina
26	Sardine P. Reed	Ohio	Ohio
27	Abm. C. Wildrich	New Jersey	New Jersey
28	Richard H. Brewer	Maryland	Maryland
29	Oliver P. Gooding	Indiana	Indiana
30	Rodman P. Lewis	New York	California
31	Edward C. Burnet	Indiana	Indiana

List of the officers, professors, and cadets, &c.—Continued.

No	Names.	Where born.	Whence appointed.
32	Joseph S. Conrad.....	New York.....	New York.....
33	John T. Magruder.....	Virginia.....	Large.....
34	Ira W. Claflin.....	Vermont.....	Iowa.....
35	George Ryan.....	Massachusetts.....	Connecticut.....
36	And. Jackson, jr.....	Tennessee.....	Large.....
37	Ed. J. Conner.....	New Hampshire.....	New Hampshire.....
38	Robert H. Anderson.....	Georgia.....	Georgia.....
39	Ed. R. Warner.....	Pennsylvania.....	Pennsylvania.....
40	Charles E. Farrand.....	New York.....	New York.....
41	William Sinclair.....	Ohio.....	Ohio.....
42	Aurelius F. Cone.....	Georgia.....	Georgia.....
43	William H. Bell.....	Pennsylvania.....	Pennsylvania.....
44	Ellison L. Costin.....	Virginia.....	Virginia.....
45	Lafayette Peck.....	Tennessee.....	Tennessee.....
46	James Fulton, jr.....	...do.....	...do.....
47	P. O. Craig.....	Massachusetts.....	Large.....
48	Thomas J. Lee.....	Indiana.....	Indiana.....
49	George W. Holt.....	Alabama.....	Alabama.....
50	P. J. Quattlebaum.....	South Carolina.....	South Carolina.....
51	Thomas W. Thurston.....	District of Columbia.....	Large.....
52	Wimer Bedford.....	Pennsylvania.....	Pennsylvania.....
53	John M. McCaffrey.....	Maryland.....	Ohio.....
54	William A. J. McGrath.....	New York.....	New York.....
55	George N. Bascom.....	Kentucky.....	Kentucky.....
56	Frank Graves.....	Michigan.....	Michigan.....
57	Charles Durfie.....	Ohio.....	Ohio.....
58	Samuel Ferguson.....	South Carolina.....	South Carolina.....
<i>Fourth Class.</i>			
1	John A. Abert.....	Mississippi.....	Mississippi.....
2	Ruffin Y. Ashe.....	Alabama.....	Alabama.....
3	Wm. B. Barnes.....	Indiana.....	Indiana.....
4	S. D. Beekman.....	New York.....	New York.....
5	Harold Borland.....	North Carolina.....	Arkansas.....
6	James M. Brien.....	Tennessee.....	Tennessee.....
7	Asa B. Carey.....	Connecticut.....	Connecticut.....
8	Samuel M. Cooper.....	Virginia.....	Large.....
9	Ed. P. Crossey.....	New York.....	New York.....
10	Rollin C. Curtis.....	Ohio.....	Ohio.....
11	George W. Cushing.....	Rhode Island.....	Rhode Island.....
12	John W. Dewey.....	Vermont.....	Vermont.....
13	Joseph Dixon.....	Tennessee.....	Tennessee.....
14	William H. Echolls.....	Alabama.....	Alabama.....
15	Newton S. Finney.....	New York.....	Wisconsin.....
16	Royal T. Frank.....	Maine.....	Maine.....
17	W. H. Fulkerson.....	Tennessee.....	Tennessee.....
18	Wm. W. Gordon.....	...do.....	...do.....
19	Peter Hairston, jr.....	Virginia.....	Virginia.....
20	J. H. Hollonguist.....	South Carolina.....	South Carolina.....
21	Luke G. Harmon.....	New York.....	New York.....
22	Charles G. Harker.....	New Jersey.....	New Jersey.....
23	Charles H. Ingraham.....	Ohio.....	Massachusetts.....
24	Charles E. Jesup.....	District of Columbia.....	Large.....
25	Wells Kellogg.....	Ohio.....	Ohio.....
26	Robert C. Kennedy.....	Georgia.....	Louisiana.....
27	G. T. McCulloch.....	Maryland.....	Maryland.....
28	Samuel McKee.....	Missouri.....	Utah.....
29	Wm. P. Macmanus.....	Pennsylvania.....	Pennsylvania.....
30	Marcus P. Miller.....	Massachusetts.....	Massachusetts.....
31	Charles S. Morgan, jr.....	Virginia.....	Virginia.....
32	Charles H. Moss.....	New York.....	New York.....
33	John A. Myers.....	South Carolina.....	South Carolina.....
34	Leroy Napier, jr.....	Georgia.....	Georgia.....
35	Wm. J. L. Nicodemus.....	Virginia.....	Maryland.....

List of the officers, professors, and cadets, &c.—Continued.

No	Names.	Where born.	Whence appointed.
36	Wm. C. Paine.....	Massachusetts.....	Massachusetts.....
37	Benjamin F. Phillips.....	Georgia.....	Mississippi.....
38	Joseph C. Riddle.....	New Hampshire.....	Wisconsin.....
39	Wm. G. Robinson.....	Canada.....	North Carolina.....
40	Rufus H. Sage.....	New York.....	New York.....
41	John S. Saunders.....	Virginia.....	Large.....
42	Thomas F. Spragins.....	Illinois.....	Illinois.....
43	Thomas R. Tannett.....	New York.....	Massachusetts.....
44	Bryan M. Thomas.....	Georgia.....	Georgia.....
45	James J. Van Horn.....	Ohio.....	Ohio.....
46	Allen C. Waterhouse.....	Maine.....	Illinois.....
47	Moses J. White.....	Mississippi.....	Mississippi.....
<i>Fifth Class.</i>			
1	Thomas E. Ames.....	Massachusetts.....	Massachusetts.....
2	William S. Anderson.....	Texas.....	Texas.....
3	Latham Anderson.....	Ohio.....	Ohio.....
4	Abraham K. Arnold.....	Pennsylvania.....	Pennsylvania.....
5	Eugene M. Baker.....	New York.....	New York.....
6	Robert F. Beckham.....	Virginia.....	Virginia.....
7	John R. B. Burtwell.....	Alabama.....	Alabama.....
8	Ed. G. Bush.....	Illinois.....	Illinois.....
9	Gustavus Campbell.....	Virginia.....	Virginia.....
10	Elias B. Carting.....	Maryland.....	Maryland.....
11	Caleb H. Carlton.....	Ohio.....	Ohio.....
12	Charles R. Collins.....	Pennsylvania.....	Pennsylvania.....
13	Francis J. Crilley.....	do.....	do.....
14	George H. Crossman, jr.....	do.....	do.....
15	Samuel A. Foster.....	Maine.....	Maine.....
16	Frank C. Goodrich.....	New Hampshire.....	Large.....
17	Francis L. Guonther.....	New York.....	New York.....
18	Jonathan N. Hall.....	do.....	Michigan.....
19	Martin D. Hardin.....	Illinois.....	Large.....
20	James C. Harvey.....	Missouri.....	Mississippi.....
21	Isaac S. Hyams.....	Louisiana.....	Louisiana.....
22	Edwin Ilsley.....	Maine.....	Maine.....
23	Ed. T. Jennings.....	Illinois.....	Oregon.....
24	Henry P. Jones.....	Ohio.....	Ohio.....
25	John M. Kerr.....	North Carolina.....	North Carolina.....
26	Theodore Koener.....	Illinois.....	Illinois.....
27	John C. Landis.....	Missouri.....	Mississippi.....
28	James B. Lagear.....	Pennsylvania.....	Pennsylvania.....
29	Samuel H. Lockett.....	Virginia.....	Alabama.....
30	John G. McConnell.....	Pennsylvania.....	Pennsylvania.....
31	William E. Merrill.....	Wisconsin.....	Large.....
32	George T. Peckham.....	New York.....	New York.....
33	Chauncey B. Reese.....	do.....	do.....
34	Hezekiah C. Rice.....	South Carolina.....	South Carolina.....
35	Edward Ross.....	New York.....	Large.....
36	Augustus H. Rutherford.....	Georgia.....	Georgia.....
37	Nelson A. Sowers.....	Indiana.....	Indiana.....
38	Roderick Stone.....	Maine.....	Maine.....
39	Edwin H. Staughton.....	Vermont.....	Vermont.....
40	Joshua P. V. Sate.....	North Carolina.....	Arkansas.....
41	John J. Upham.....	Delaware.....	Wisconsin.....
42	Francis W. Van Brunt.....	New Jersey.....	New Jersey.....
43	Benjamin O. Wade.....	North Carolina.....	Kentucky.....
44	Orlando G. Wagner.....	Pennsylvania.....	Pennsylvania.....
45	J. E. M. P. Washington.....	South Carolina.....	Large.....
46	Alphonso Wetmore.....	Missouri.....	Missouri.....
47	Isaac T. Wheeler.....	Virginia.....	Virginia.....
48	Robert White.....	Tennessee.....	Tennessee.....
49	James Wilson.....	Louisiana.....	Large.....
50	William Wonderly.....	Maryland.....	Maryland.....

List of the officers, professors, and cadets, &c.—Continued.

No.	Names.	Where born.	Whence appointed.
51	Henry A. F. Worth	Virginia.....	Large.....
52	Moses H. Wright.....	Tennessee.....	Tennessee.....
53	Joseph Wright.....	Pennsylvania.....	Pennsylvania.....
54	Joseph Wheeler.....	Georgia.....	New York.....
55	James Zabriski.....	New Jersey.....	California.....

R. E. LEE,

Bvt. Col. and Capt. Eng. U. S. A., and Sup't Mil. Acad.

HEADQUARTERS U. S. ARMY,

*West Point, September 30, 1854.**Letter explanatory of the Military Academy Estimates.*

UNITED STATES MILITARY ACADEMY,

West Point, October 7th, 1854.

GENERAL: I have the honor to present an estimate of funds for the fiscal year ending June 30th, 1856, for the United States Military Academy.

The usual amount appropriated for repairs and improvements has been increased by \$2,900 for the payment of the enlisted men on extra duty, the additional compensation granted by the law of 4th August, 1854. It has also been necessary to add \$600 to the estimate for fuel, and \$325 to that for forage; in consequence of the enhanced price of those articles. The last register of the graduates of the academy was published in 1850. It is proposed to publish one every five years, instead of triennially as heretofore; and to provide for the publication of the Register of 1855, \$1,225 has been added to the last year's estimate for printing.

The clerk of the adjutant of the academy, is charged with the record of all the rolls, reports, &c., of the recitations, conduct, and standing of the cadets. His duties, besides being laborious, require much care and accuracy. His pay for many years has been \$500 per annum. The increased expense of living, and the inadequate compensation of his services, has induced me to ask for an addition of \$100 to his pay.

In the department of artillery the estimate has been increased \$190, to provide means for the increased instruction in fencing. The fourth and fifth classes are now taught fencing, and the latter receives about double the quantity of instruction heretofore given the former. An additional number of foils, masks, &c., are consequently required.

The other items under the head of current and ordinary expenses, are about the same as usually required, and differ but little from the amounts heretofore appropriated.

It has become necessary to increase the estimate to defray the expenses of the board of visitors, appointed under the act of 8th August, 1846, or to diminish the number of members. The additional number of States and extension of territory since the passage of the act renders the usual appropriation insufficient. Taking the expenses of the board

the present year as a criterion for that for 1856, it has been necessary to add \$1,160 to the estimate.

The furniture of the cadets' hospital, being completely worn out and reported unfit for use by the surgeon, and the building having been enlarged and provided with eight new wards, I have introduced \$500 in the estimate to furnish it with plain and necessary articles of furniture.

The introduction of gas light into the cadets' barrack, offices, and academies would greatly promote economy, cleanliness, and comfort. The barrack was built with this view, and I have introduced into the present estimate \$15,000 for the purpose of building a gas-house, and providing the necessary pipes and burners. The consumption of the gas will be paid for by the cadets; will be a saving to them, and no additional expense to the government.

I feel it my duty again to call your attention to the want of proper quarters for the accommodation of the professors, officers, and soldiers at the academy. The professors' houses do not afford sufficient room for their families. The portion of the cadets' barrack, necessarily occupied by the officers, for want of other quarters, is required for the accommodation of the cadets, for whom it was built. No quarters have ever been provided for the company of sappers and miners. The officers are quartered a quarter of a mile from their men, and the men occupy quarters built for the artillery detachment, who are crowded on the dragoons. The control and supervision, necessary for instruction and discipline, cannot under these circumstances be maintained, and the health and comfort of the men are also impaired.

I have added to the estimate \$5,000 for the additions to the professors' quarters; and \$20,000 for the commencement of officers' quarters; according to the plans already submitted to the department. For the construction of quarters for officers and men of the sappers and miners, grading and enclosing company grounds, &c., according to the plans also submitted and approved, \$24,500 will be required, in addition to the amount on hand.

I also transmit an estimate of funds to meet the deficiency of appropriations of the past and present fiscal years, which is therein explained.

I am, very respectfully, your obedient servant,

R. E. LEE,

Bvt. Col., Sup't Military Academy.

en. JOSEPH G. TOTTEN,

Chief Engineer, Washington, D. C.

THE MILITARY ACADEMY.

REPORT OF THE BOARD OF VISITORS.

MILITARY ACADEMY, *West Point, June 22, 1854.*

SIR: The Board of Visitors invited to attend the annual examination of the Military Academy have performed the duty assigned them, and respectfully submit the following report upon the various topics referred to in your letter of instructions.

The Board take pleasure in stating that every facility was afforded by the superintendent and other officers of the institution to enable them to discharge the trust confided to them. Every department of the academy was submitted to their inspection, and every species of information necessary to a correct understanding of its practical operations was promptly and cheerfully furnished.

After a very careful examination of the course of instruction prescribed by existing regulations, the Board was deeply impressed with the wisdom of those by whom that system was devised. It is difficult to conceive one more perfect in its general arrangement. The same wisdom is displayed in the distribution of studies among the different classes. Subjects of investigation, at first comparatively simple, become gradually more complicated as the student approaches the termination of that course when the honors of the academy are conferred upon him. Each step taken in that course sheds light upon the succeeding one. Thus the path which, under a system less perfect would be obscure, is made plain, and difficulties apparently formidable are easily surmounted.

The examination of the cadets in the presence of the Board, from day to day, while it strengthened the conviction we have expressed in respect to the course of studies, afforded abundant evidence that the mode of instruction was as perfect as could well be devised.

The severe tests to which the cadet is subjected under the plan now adopted precludes the possibility of substituting for the deductions of reason the mere efforts of memory. The results of these examinations were generally quite satisfactory, furnishing not only satisfactory evidence of the diligence of the cadets, but of the distinguished ability of their instructors, and of their skill and judgment in imparting knowledge to the youths committed to their charge. In this connexion the Board cannot withhold the expression of their admiration in witnessing the patience and impartiality of the gentlemen to whom the responsible trust of teaching is confided. Mutual confidence and kindly sympathies exist between professor and student, without impairing the authority of the former or inducing false expectations on the part of the latter. The existence of such relations is shown not to be incompatible with the higher claims of justice or with the enforcement of the most rigid discipline.

Instruction in the various arms of the service is taught theoretically and practically. The officers entrusted with the duty of instruction in this department have exhibited qualifications of a high order. The precision and accuracy with which manœuvres were executed in the field commanded the admiration of the Board. It is among the distinguishing excellences of the Military Academy that the best scientific education and highest mental culture are combined with these manly exercises, which impart vigor to the constitution, and thus secure to the student that bodily health, strength and activity so essential to the profession of arms.

According to the existing regulations, the assistant and acting assistant professors are detailed from the army; and the Board regard it as eminently important that, when designated for the performance of that duty at the commencement of the academic year, their services

should be secured to the institution at least until its close. The Board are aware that the public exigencies may demand the services of these officers in other fields of duty, but the reasons upon which this recommendation is founded are so obvious and cogent as to commend it to the adoption of the government.

Immediately connected with the course of instruction is a subject to which the Board beg leave to invite, in a special manner, the attention of the Secretary of War.

By the existing regulations, young men are permitted to become members of the institution after having attained the age of sixteen years. The history of the academy, and the judgment of those whose experience gives force to their opinions, prove very conclusively that, in many instances, young gentlemen who enter at that early age are not prepared to master the complicated subjects constituting the first year's course. The consequences are necessarily disastrous to the prospects of many meritorious youths. Their failure to attain the standard exacted by the regulations of the academy, and to grapple successfully with the complex subjects which engage their attention during their first year's service, arises in many instances from an exceedingly defective education. The intellectual powers, never having been cultivated, remain undeveloped; and thus, for the want of that previous mental discipline so necessary to success, the hopes of both parent and child are often crushed. Two remedies have been suggested for this great evil: first, by requiring a higher standard than that now prescribed as a prerequisite to admission; second, by extending the course of studies through a period of five instead of four years. The adoption of the plan just suggested is liable to the serious objection that a considerable proportion of the cadets are selected from that large and highly respectable class whose parents cannot command the means necessary to qualify them for admission under the proposed regulation. Thus an invidious distinction would be created, and the benefit of the institution would to a great extent be confined to the more fortunate whose parents are in a condition to fit them for the preliminary examination. Should the term of service be extended to five years, it is believed that the difficulties which beset the path of many interesting young men would be removed. The subjects embraced in the first year's course should be of a character to discipline the mind and prepare it for the investigation of those of a more complicated nature. Other advantages would result from the plan now proposed, and which deserve notice. Instruction might with great advantage be given in history, elocution, and composition without tasking too severely the physical or mental powers of the student. The board regret to find that the study of history is not and cannot be embraced in the course of instruction. Thus, while the scientific and military education of the cadet is very complete, he enters the army with no other knowledge of history than may have been acquired before his connexion with the academy. An evil so glaring and palpable can only find a remedy by the adoption of the recommendation now proposed.

While the Board were impressed with the thorough and accurate knowledge generally exhibited in the exact sciences, the necessity of requiring instruction in elocution was quite manifest. In many in-

stances there was the absence of that facility of expression, accuracy of style, and clearness of pronounciation which can only be acquired by exacting a more extended course of instruction in English studies and making composition and elocution part of the course of instruction.

The duties of the acting assistant professors are of a highly important and responsible nature. The selection of these officers is suggested by the ability they have displayed in the several branches of learning taught at the academy, and their skill and tact as instructors of youth. To reap the full benefits of the system which now prevails, it is essential that the services of this class of officers should, as far as possible, be secured to the institution, thus uniting practical experience to acknowledged ability. The assistant professors now receive additional compensation in consideration of the duties they perform, and the Board perceive no reason why the same measure of justice should not be extended to officers holding subordinate positions. The Board, therefore, earnestly recommend that provision be made for such increase of pay to acting assistant professors as may be deemed equitable.

Discipline, so necessary to the very existence of the academy, is enforced with firmness, and, as the Board believe, with strict impartiality. The penalties consequent on a violation of the code of laws prescribed for its government are of a nature to secure obedience, while their tendency is not to degrade the cadet, except, indeed, after repeated admonitions, his disregard of duty, and of obligations cast upon him when he becomes a member of the academy, render his further connexion with it inconsistent with its safety and well-being. The extreme penalty of expulsion is only enforced, however, when the offence is of a character so grave as to demand its execution. The happy fruits of the system of discipline now in force may be seen in the general spirit of subordination, manly bearing, and gentlemanly deportment so strikingly manifested by the corps of cadets.

For an extended and satisfactory view of the fiscal affairs of the academy the Board beg leave to refer to the report of the committee on that subject, with the documents by which it is accompanied. After the most careful and mature deliberation, the Board, with entire unanimity, recommend an increase of the pay of the cadets. This recommendation is founded on the reasons disclosed in that report. They are of a nature so conclusive as to render discussion unnecessary. Experience has shown that, with the most rigid economy, the pay allowed by law to the cadet is insufficient for his support. The result is that when graduated he finds himself burdened with a debt he is not in a condition to discharge. In regulating the pay of the cadet precisely such sum should be allowed as will place him with proper economy beyond the reach of want.

The Board have noticed with surprise the inequality which now exists in respect to the pay of the professors. The professors of French and drawing, although members of the Academic Board, and distinguished in their respective departments, receive a compensation of fifteen hundred dollars, while the other professors with whom they are associated on the Board, and the instructor of infantry tactics, each receive two thousand dollars a year. Independent of the impolicy of placing the several professors on a different footing in respect to pay,

the Board affirm with entire confidence that the salary now allowed to the professors of French and drawing is inadequate to their support. The expense of living at the Military Academy has recently increased to such an extent as to make it quite impossible for these gentlemen, with the most exact economy, to live in a manner befitting their stations. The best energies of the professors should be, and indeed are, given to the government, and in return the eminent gentlemen to whom has been confided a trust calling for the exercise of the highest qualities of mind and heart should receive a compensation proportioned to the responsibilities cast upon them. The pressure of pecuniary embarrassment should not be felt by those who are called upon to discharge duties of a nature so delicate and laborious. While on this subject, the Board earnestly recommend a small appropriation of five hundred dollars with a view to the improvement of the quarters assigned to the professors. This amount, in addition to that now in the treasury and applicable to this object, will be sufficient to render the professors and their families comparatively comfortable.

Appropriations are also necessary for quarters for the meritorious and able officers having families, who now discharge important functions at the academy. Withdrawn from the ordinary duties of their profession, ample provision should be made for their comfort and that of their families.

The Board have ascertained that at some seasons of the year the supply of water is inadequate, and recommend that appropriation be made to remedy this inconvenience.

The Board also concur with the views of the Committee on Police in respect to the importance of providing additional quarters for those officers who have rooms assigned to them in the cadet barracks. The inconveniences resulting from the existing state of things demand a prompt remedy at the hands of the government.

The attention of the Board was drawn to the condition of the hospitals provided for the cadets and troops stationed at the academy. While the hospital provided for the enlisted men is in every respect comfortable, that provided for the cadets is not so complete in its arrangements as could be desired. The appropriation already made, we are informed by the distinguished gentleman now in charge, will render it sufficiently commodious. The wards, however, should be immediately provided with new furniture. What remains of the old is unfit for use. An appropriation of five hundred dollars is all that is necessary to accomplish this desirable object. Special attention is directed to the manner in which attendants are provided. Instead of relying upon the laborers of the garrison, men should be enlisted for that particular service. Care should be taken in their selection, and every proper motive held out to secure their services, after experience shall have fitted them for the duties incident to a hospital.

For a more minute and extended view of the operations of the Military Academy we beg leave to refer to the several reports of the committees herewith transmitted. They convey valuable information in relation to the various topics to which the attention of the Board is directed in your letter of instructions.

The Board avail themselves of the opportunity now presented of ex-

pressing their profound conviction of the great value of the Military Academy, and commend it to the liberal support of the government. Whilst rigid economy should control the action of Congress in respect to appropriations, they earnestly trust that no mistaken views on this subject will retard its advancement, until it shall attain that standard of perfection worthy of the great nation by which it is fostered. At no former period of its history has it presented stronger claims to the confidence and affection of the American people.

The Board cannot conclude this report without bearing testimony to the eminent qualifications of the superintendent for the honorable and distinguished post assigned him by the government. Services conspicuous in the field, and when our country was engaged in a war with a foreign nation, have lost none of their lustre in the exalted position he so worthily fills.

The Board desire also to record the high sense they entertain of the zeal, ability, and energy displayed by the learned gentlemen who have been placed at the head of the several departments of the academy. To them in a great degree is due its present exalted character.

Respectfully submitted,

CHARLES W. WHIPPLE, Michigan,
President of the Board.

SHERARD CLEMENS, Virginia,
Secretary of the Board.

WM. C. CLARKE, New Hampshire.

SAMUEL J. BAYARD, New Jersey.

WM. W. LEA, Tennessee.

JOHN JARVIN MORRISON, Indiana.

JOHN S. HACKER, Illinois.

WINSLOW TURNER, Missouri.

L. B. LUCKIE, Arkansas.

RICHARD D. TREVILLE, South Carolina.

H. M. KINSEY, Texas.

GEORGE HOLTZBECKER, Delaware.

JOHN B. HARMON, California.

L. B. DICKERSON, Kentucky.

ROBERT ALLYN, Rhode Island.

HON. JEFFERSON DAVIS,
Secretary of War.

REPORT OF THE COMMITTEE ON FISCAL AFFAIRS.

To the Board of Visitors at the United States Military Academy 1854:

The committee on fiscal affairs respectfully report—

That schedule A contains a statement of funds available, and disbursements made by the superintendent of the academy during the fiscal year ending June 30, 1854, and to include the 7th day of June, 1854, from which it appears that the amount unexpended of the appropriation for the fiscal year ending June 30, 1853, is the sum of \$31,501 74.

That the amount of the appropriation for the fiscal year ending June 30, 1854, is \$54,780 00, the amounts received from other sources \$1,339 52, making the whole available funds for the fiscal year ending June 30, 1854, the sum of \$87,621 26.

That schedule B contains a statement of the rank, pay, and emoluments, of the officers, professors, instructors, cadets, and employés at the academy, from which it appears that five of the professors receive each the sum of \$2,000 per annum, while two others, the professors of drawing and French, are in the annual receipt of only \$1,500 each; and your committee are at a loss, whether they consider the importance of the professorships or the character of the gentlemen who fill them, to understand the reason of the difference in the several salaries, and they recommend that the pay of the professors of drawing and French be raised to the sum of \$2,000 each.

Schedule C contains a statement of authorized amounts paid by the treasurer of the academy on account of cadets from May 1, 1853, to May 1, 1854, showing the average amount applicable for each cadet for two months to be \$54 03, while the amount received from the government of the United States for the same time is only \$48 00, making the amount expended on his account for two months to be \$6 03.

The same schedule also contains a recapitulation of disbursements, made by the treasurer on account of cadets from May 1, 1848, to April 30, 1853, a period of five years, from which it appears that the average difference between the pay for two months and the amount expended on account of each cadet is \$6 69 against him.

The same paper also contains twenty-six items of the cadets' expense, with remarks against each.

Paper D was called for by the committee, and contains balances paid by the treasurer of the academy to ten members of each graduated class, on the final settlement of their accounts, from the year 1848 to 1853 inclusive, exhibiting five cadets of each class who have received the largest amount and five who have received the smallest.

A careful examination of this and the preceding paper, together with their own observations and inquiries, has satisfied your committee that even with the rigid system of economy and accountability now practised by the cadet, he cannot meet the necessary expense of the course with the pay he now receives, and they therefore recommend that his monthly pay be raised to \$33 per month, in accordance with the bill reported to the Senate of the United States.

Paper E contains a list of appropriations for the support of the academy for the year ending June, 1855.

The management of the fiscal affairs of this institution seem, to your committee, to be on an admirable footing.

WM. C. CLARKE,
H. M. KINSEY,
WINSLOW TURNER,
Committee.

A.

Statement of funds available, and disbursements made by the Superintendent of the U. S. Military Academy during the fiscal year ending June 30, 1854.

For what purpose.	Amount unexpended of the appropriation for the fiscal year ending June 30, 1853.	Appropriation for the fiscal year ending June 30, 1854.	Amounts received from other sources.	Total available for fiscal year ending June 30, 1854.	Expended, to include June 7, 1854.	Available, June 7, 1854.
Repairs and improvements .....	.....	\$9,000 00	\$954 27	\$9,954 27	\$9,524 27	\$430 00
Fuel	\$546 16	7,200 00	.....	7,746 16	6,637 93	1,108 23
Forage	834 50	1,760 00	.....	2,594 50	1,921 26	673 24
Postage	31 53	50 00	.....	81 53	25 89	55 64
Stationary	177 71	300 00	.....	477 71	264 67	213 04
Transportation	193 35	1,800 00	.....	1,993 35	1,303 92	689 43
Printing	286 83	1,000 00	.....	1,286 83	1,103 94	182 89
Clerks .....	.....	1,900 00	.....	1,900 00	1,658 33	241 67
Miscellaneous and incidental expenses	1,181 34	3,040 00	.....	4,221 84	2,841 82	1,379 52
Department of engineering	1,613 73	1,000 00	.....	2,613 73	.....	2,613 73
Do.....philosophy	93 52	500 00	.....	593 52	477 01	116 51
Do.....mathematics	236 68	50 00	.....	286 68	37 60	249 08
Do.....chemistry, &c.....	59 49	650 00	.....	709 49	416 87	292 62
Do.....ethics	73 37	100 00	.....	173 37	14 68	158 69
Do.....drawing	74 39	210 00	.....	284 39	230 18	54 21
Do.....practical engineering .....	.....	100 00	.....	100 00	.....	100 00
Do.....infantry tactics	59 90	300 00	.....	359 90	43 57	316 33
Do.....artillery and cavalry	98	700 00	.....	700 98	502 86	198 12
Improvements and additions to officers' quarters	3,000 00	.....	.....	3,000 00	.....	3,000 00
Additional compensation to enlisted men .....	.....	150 00	.....	150 00	112 50	37 50
Gradual increase and expense of library	119 78	1,000 00	.....	1,119 78	946 91	172 87
Board of Visitors	275 88	3,000 00	.....	3,275 88	.....	3,275 88
Stables for artillery and cavalry horses .....	.....	8,000 00	.....	8,000 00	.....	8,000 00

A—Continued.

Statement of funds available, and disbursements made by the Superintendent of the U. S. Military Academy during the fiscal year ending June 30, 1854.

For what purpose.	Amount unexpended of the appropriation for the fiscal year ending June 30, 1853.	Appropriation for the fiscal year ending June 30, 1854.	Amounts received from other sources.	Total available for fiscal year ending June 30, 1854.	Expended, to include June 7, 1854.	Available, June 7, 1854.
Forage for artillery and cavalry horses.....	\$68 19	\$8,640 00	.....	\$8,708 19	\$7,633 75	\$1,074 44
Apparatus for warming buildings.....	2,500 00	.....	.....	2,500 00	.....	2,500 00
Cavalry exercise hall.....	2,000 00	.....	.....	2,000 00	.....	2,000 00
Construction of a new wharf.....	.....	4,330 00	.....	4,330 00	4,330 00	.....
New equatorial telescope.....	5,000 00	.....	.....	5,000 00	.....	5,000 00
Purchase of artillery and cavalry horses.....	3,074 41	.....	b 385 25	3,459 66	2,948 00	511 66
Erecting barracks for engineer troops.....	10,000 00	.....	.....	10,000 00	.....	10,000 00
	\$31,501 74	\$54,780 00	\$1,339 52	\$57,621 26	\$42,975 96	\$44,645 30

a Derived from wood cut on public land.....\$792 63

Do.....old iron.....128 14

Do.....manure.....33 50

954 27

b Do.....sale of 11 condemned horses.....385 25

\$1,339 59

Of the amount available there remains in the Treasury of the United States.....\$40,039 04

Do.....do.....hands of the Superintendent.....4,606 26

Available.....\$44,645 30

QUARTERMASTER'S OFFICE, U. S. MILITARY ACADEMY,
West Point, New York, June 8, 1854.

R. S. SMITH,
Lieutenant and Quartermaster U. S. Military Academy.

B.—Statement of the rank, pay, and emoluments, of the officers, professors, instructors, cadets, and employes, at the United States Military Academy, West Point, New York.

No.	Office.	Rank.			Remarks.
1	Superintendent	Brevet colonel	\$2,628 00	.....	\$2,628 00
1	Professor of engineering .....	.....	.....	\$2,000 00	2,000 00
1	Assistant professor .....	.....	.....	200 00	1,182 00
1	Acting assistant professor .....	.....	981 96	.....	981 96
1	Professor of natural and experimental philosophy .....	.....	981 96	.....	.....
1	Assistant professor .....	.....	.....	2,000 00	2,000 00
1	Acting professor	1st lieut. artillery	834 00	348 00	1,182 00
1	do.....	1st lieut. infantry	834 00	.....	834 00
1	Professor of mathematics	2d lieut. artillery	774 00	.....	774 00
1	Assistant professor .....	.....	.....	2,000 00	2,000 00
2	Acting professors	1st lieut. topographical engineers	981 96	200 04	1,182 00
3	do.....	1st lieut. artillery, each	834 00	.....	834 00
1	Professor of chemistry	2d lieut. artillery, each	774 00	.....	774 00
1	Assistant professor .....	.....	.....	2,000 00	2,000 00
1	Acting professor	1st lieut. artillery and bvt. capt.	834 00	348 00	1,182 00
1	Professor of ethics	2d lieut. artillery	774 00	.....	774 00
1	Assistant professor .....	.....	.....	2,000 00	2,000 00
1	Acting professor	1st lieut. artillery and bvt. capt.	834 00	348 00	1,182 00
1	do.....	1st lieut. infantry	834 00	.....	834 00
1	Professor of drawing	1st lieut. artillery	834 00	.....	834 00
1	Assistant professor .....	.....	.....	1,500 00	1,500 00
1	Acting professor	1st lieut. artillery	1,002 00	348 00	1,350 00
1	Instructor of practical engineering	1st lieut. infantry	834 00	.....	834 00
2	Assistant instructors	Captain engineers	1,302 00	.....	1,302 00
1	Assistant instructor	2d lieut. engineers, each	981 96	.....	981 96
1	Professor of French	Bvt. 2d lieut. engineers	981 96	.....	981 96
1	Assistant professor .....	.....	.....	1,500 00	1,500 00
2	Acting professors	1st lieut. infantry	834 00	348 00	1,182 00
1	Instructor of infantry tactics	1st lieut. artillery, each	834 00	.....	834 00
3	Assistant instructors	Captain infantry and bvt. major	1,074 00	926 00	2,000 00
1	Assistant instructor	1st lieut. infantry, each	834 00	120 00	954 00
1	Instructor of artillery and cavalry	2d lieut. infantry	774 00	120 00	894 00
1	.....	1st lieut. artillery and bvt. major	1,668 00	.....	1,668 00

Disbursed by pay master's department.

B—Continued.

No.	Office.	Rank.			Remarks.
1	Assistant instructor of artillery.....	1st lieut. artillery.....	\$834 00	.....	\$834 00
1	Assistant instructor of cavalry.....	1st lieut. dragoons.....	1,077 96	.....	1,077 96
1	...do.....do.....	2d lieut. dragoons.....	1,077 96	.....	1,077 96
1	Instructor of sword exercise.....	.....	.....	.....	720 00
1	Surgeon.....	Surgeon.....	.....	.....	1,778 00
1	Assistant Surgeon.....	Assistant surgeon.....	1,470 00	.....	1,470 00
1	Adjutant.....	1st lieut.....	834 00	.....	834 00
	Cadets, each.....	.....	.....	288 00	288 00
1	Disbursing officer and quartermaster.....	.....	.....	900 00	900 00
1	Treasurer.....	.....	.....	500 00	500 00
1	Adjutant.....	.....	.....	500 00	500 00
					See Treasurer's report for de- tailed statement of cadet's accounts.
					Disbursed by Superintendent Military Academy.

NOTE.—In addition to army pay, all officers receive an additional ration for every five years' service, the value of which is commuted at \$6 per month.

R. S. SMITH, Lieutenant and Quartermaster U. S. M. A.

QUARTERMASTER'S OFFICE U. S. MILITARY ACADEMY,
West Point, New York, June 8, 1854.

C.

Statement of authorised amounts paid by the treasurer of the United States Military Academy, exhibiting the annual total amounts, the average amounts for two months, together with the average amount applicable for each cadet for all articles, from May 1, 1853, to April 30, 1854.

On what account paid.	May and June.	July and August.	September and October.	November and December.	January and February.	March and April.	Total amount.	Average amount for two months.	Average amount applicable for each cadet for two months.	Remarks.
Band fund.....	\$114 50	\$116 37	\$116 40	\$115 20	\$109 08	\$104 67	\$676 22	\$112 70	\$0 50	Voluntary subscription by cadets for the support of a band of musicians.
Board at mess commons	3,464 57	3,669 53	3,814 75	4,237 28	4,033 10	3,889 42	23,108 65	3,851 44	16 66	The amount charged each cadet being pro rata, and fixed by a board of officers, who examine and audit the accounts of the purveyor of the cadets' commons.
Washing mess commons	903 31	882 18	938 87	923 40	874 93	831 82	5,354 51	892 42	4 00	\$2 per month, winter and summer.
Commissary store	850 10	4,211 23	2,386 00	1,297 93	1,307 44	\$10 45	10,863 25	1,810 55	7 83	Conducted by the commissary of cadets. Articles furnished, viz: text books, stationery, under garments, equipments, room furniture, oil, candles, &c.
Commissary clothing department.	2,359 74	3,117 84	2,182 57	1,914 09	2,190 57	1,938 50	13,703 31	2,283 89	9 85	Conducted by the commissary of cadets. Articles furnished, viz: uniform clothing, citizens' clothing, and authorized military frock coats for cadets when going on furlough.
Commissary shoemaker's department.	422 75	1,028 63	559 04	516 78	341 97	436 46	3,305 63	550 94	2 87	Shoes and repairs, done by the contractor under the inspection of the commissary of clothing.
Postage.....	107 46	82 96	104 58	99 45	74 29	101 91	570 65	95 11	40	Postage of letters and newspapers—one newspaper allowed to each cadet, provided he makes application for the permission.
Barber, shoe-blackening, and varnishing.	163 50	195 04	164 30	156 93	148 18	162 23	995 18	165 86	70	This embraces shoe-blackening, hair-cutting, varnishing accoutrements, &c.
Sundries.....	.....	193 48	.....	.....	.....	.....	193 48	32 24	14	Special permissions.
Baths taken by cadets	140 20	15 50	123 30	122 16	107 85	110 43	619 44	103 24	43	A small charge for each bath, only sufficient to pay the expenses of the bathing establishment.
Dialectic Society	113 25	.....	.....	.....	.....	72 00	185 25	30 88	14	Subscribed by the members of that society, under the sanction of the superintendent of the United States Military Academy.
Iron bedstead and table fund.	27 20	31 60	32 40	31 60	25 20	24 50	172 50	28 75	13	This is only charged to the fourth class for their use, at \$20 per month, for the first year only, which is applied to keep the articles in repair.
Rules and triangles, steel	65 57	.....	.....	.....	.....	.....	65 57	10 93	15	A small charge annually being necessary to replace and keep them in repair.
Lithographic department	13 21	.....	.....	22 43	1 18	93 06	129 83	21 64	9	Charge for lithographic works, written by the officers and professors to aid the construction in their several departments.

REPORT OF THE

C—Continued.

[illegible]

C—Continued.

RECAPITULATION.

Disbursements made by the treasurer of the United States Military Academy on account of cadets, from May 1, 1848, to April 30, 1853—five years.

From May 1, 1848, to April 30, 1849 ...	\$17,758 31	\$15,600 38	\$12,035 00	\$11,621 58	\$10,883 60	\$10,140 43	\$78,039 30	\$13,006 85	\$56 62
From May 1, 1849, to April 30, 1850 ...	17,718 61	14,396 38	10,988 97	9,804 00	9,757 49	8,865 03	71,530 48	11,921 74	55 72
From May 1, 1850, to April 30, 1851 ...	18,308 79	14,928 03	11,627 34	10,588 78	11,016 58	9,371 34	75,840 86	12,640 14	54 73
From May 1, 1851, to April 30, 1852 ...	18,623 82	13,938 86	11,007 74	9,903 41	10,589 04	8,931 67	72,994 54	12,165 76	52 89
From May 1, 1852, to April 30, 1853 ...	17,934 23	14,751 38	12,353 93	11,375 29	11,283 98	9,610 98	77,309 79	12,884 96	53 53
230 cadets—average amount	18,068 75	14,723 00	11,602 59	10,658 61	10,706 13	9,383 91	75,142 99	12,523 83	54 69

Amount of cadets' pay for two months \$48 00

Average difference between the pay for two months and the amount expended on account of each cadet..... 6 69

TREASURER'S OFFICE, WEST POINT, New York, June 7, 1854.

R. S. SMITH,
Lieut. and Treasurer United States Military Academy.

D.

Balances paid by the Treasurer of the United States Military Academy to the following named cadets, (graduates,) on the final settlement of their accounts, from the year 1848 to 1853, exhibiting five cadets of each class who have received the largest amount, and five who have received the smallest.

Names.	Amount paid when graduated.	Am't deposited when entering, which is included in the preceding.	Amount paid, independent of deposit made.	Am't of indebtedness after deducting the deposit made on entering M. A.	Where from.
1848.					
Cadet Dodge, R. H.....	\$74 29	\$10 00	\$64 29	.....	Rockford, Surry county, North Carolina.
Michler, N.....	147 42	60 00	87 42	.....	Easton, Northampton county, Pennsylvania.
Ogle, C. H.....	119 00	25 00	94 00	.....	Somerset, Somerset county, Pennsylvania.
Slaughter, W. N.....	161 77	43 50	118 27	.....	Lafayette, Tippecanoe county, Indiana.
Tyler, C. H.....	74 38	15 00	59 38	.....	Haymarket, Prince William county, Virginia.
Average.....	115 37	30 70	84 67	.....	
1849.					
Cadet Duncan, Thomas T.....	72 55	.....	72 55	.....	Findlay, Hancock county, Ohio.
Frazer, J. W.....	162 87	105 00	57 87	.....	Holly Springs, Marshall county, Massachusetts.
Holabird, J. B.....	146 26	105 00	41 26	.....	North End, Mathews county, Virginia.
Roy, Jas. P.....	97 31	34 00	63 31	.....	Canaan, Lancaster county, Virginia.
Park, John G.....	104 78	50 00	54 78	.....	Coutsville, Chester county, Pennsylvania.
Average.....	116 75	59 00	57 95	.....	

1850.	1851.	1852.	1853.
Cadet Carlin, W. P.	Cadet Andrews, George.	Cadet Crook, S. W.	Cadet Chamberlain, B. F.
Crispin, Silas.	Gillen, A. A.	Cosby, George B.	Hunter, R. F.
Johnson, Robert.	Jones, Rodger.	Myers, W. J.	Livingston, L.
Magruder, W. F.	Piper, Alexander.	Todd, John W.	Shunk, Francis, jr.
Wyman, P. F.	Thompson, Jas.	Wood, Charles R.	Webb, Wm. A.
Average.	Average.	Average.	Average.
145 98	83 35	173 93	161 28
119 09	88 38	135 30	147 03
121 77	102 60	181 04	121 48
105 43	132 83	154 64	100 83
106 34	82 13	132 71	118 75
118 12	97 85	155 52	129 67
55 00	12 50	115 00	50 00
60 00	14 00	50 00	60 90
35 00	60 90	50 00	60 00
54 75	50 00	72 00	50 00
50 00	20 00	55 00	55 00
67 77	65 97	87 12	110 28
93 98	70 83	58 93	86 08
51 09	74 38	85 30	61 48
86 77	41 70	131 04	50 83
50 68	82 83	82 64	63 75
56 34	60 13	77 71	74 48
Carrollton, Greene county, Illinois.	Bridgewater, Plymouth county, Massachusetts.	Dayton, Montgomery county, Ohio.	Rochester, Monroe county, New York.
Hamburg, Philadelphia county, Pennsylvania.	Gainesboro', Jackson county, Tennessee.	Louisville, Jefferson county, Kentucky.	Lancaster, Fairfield county, Ohio.
Richmond, Henrico county, Virginia.	Hamburg, Washington county, District of Columbia.	Reading, Berks county, Pennsylvania.	Lewis, Essex county, New York.
Bladensburg, Prince George's county, Maryland.	Franklin, Dauphin county, Pennsylvania.	Russellville, Logan county, Kentucky.	Harrisburg, Dauphin county, Pennsylvania.
Boston, Suffolk county, Massachusetts.	——, Delaware county, New York.	Newark, Licking county, Ohio.	Calais, Washington county, Maine.

D—Continued.

Names.	Amount paid when graduated.	Am't deposited when entering, which is included in the preceding.	Amount paid, independent of deposit made.	Am't of indebtedness after deducting the deposit made on entering M. A.	Where from.
1848.					
Cadet Jackson, Thomas, jr.....	\$121 00	\$75 00	\$46 00	.....	Abbeville court-house, South Carolina.
McLean, N. H.....	87 28	50 00	37 28	.....	Cincinnati, Hamilton county, Ohio.
Rhett, Thomas, jr.....	118 70	100 00	18 70	.....	Haverell, Beaufort county, South Carolina.
Roy, Rufus A.....	75 00	98 00	.....	\$23 00	Haverell, Grafton county, New Hampshire.
Talmadge, Greer.....	109 00	75 00	4 00	.....	Poughkeepsie, Dutchess county, New York.
Average.....	102 19	79 60	33 99	23 00	
1849.					
Cadet Benet, T. V.....	84 13	110 75	.....	26 62	St. Augustine, St. John's county, Florida.
Haines, Thomas J.....	26 14	16 12	10 02	.....	Portsmouth, Rockingham county, North Carolina.
Robinson, B.....	114 57	105 00	9 57	.....	Wilkinsonville, Amelia county, Virginia.
Washington, T. A.....	101 96	94 49	7 47	.....	Charleston, Jefferson county, Virginia.
Williams, Thomas G.....	76 44	100 00	.....	23 56	Richmond, Henrico county, Virginia.
Average.....	80 64	85 27	9 02	25 09	
1850.					
Cadet Bankhead, C. H.....	88 37	60 00	28 37	.....	Station of his father.
Maxwell, E. J.....	101 23	117 00	.....	15 77	Athens, Clark county, Georgia.
Searle, T. S.....	96 14	60 00	36 14	.....	New York, New York county, New York.
Walker, L. M.....	82 16	73 00	9 16	.....	Columbia, Maury county, Tennessee.

Winder, H. C.....	82 45	73 00	9 45	.....	Easton, Talbot county, Maryland.
Average.....	90 07	76 60	20 78	15 77	
1851.					
Cadet Day, Edward.....	63 02	100 00	.....	36 98	Jackson, Madison county, Tennessee.
Garrard, R.....	67 11	63 00	4 11	.....	Alexandria, Alexandria county, Virginia.
Kelton, J. C.....	36 45	75 00	.....	38 59	Lancaster, Lancaster county, Pennsylvania.
Williams, Robert.....	9 29	68 00	.....	58 71	Fairfax, Culpepper county, Virginia.
Walker, W. T.....	82 40	65 00	17 40	.....	Kingston, Roane county, Tennessee.
Average.....	51 64	74 20	10 75	44 75	
1852.					
Cadet Bonaparte, N. J.....	142 87	100 00	42 87	.....	Baltimore, Baltimore county, Maryland.
Bagly, A. P.....	71 24	75 00	.....	3 76	Tuscaloosa, Tuscaloosa county, Alabama.
Stockton, Philip.....	98 99	100 00	.....	1 01	Long Branch, Monmouth county, New Jersey.
Polk, M. T.....	104 54	76 00	28 54	.....	Morgantown, Burke county, North Carolina.
Thomas, R. P.....	62 81	70 00	.....	7 19	New Orleans, Orleans county, Louisiana.
Average.....	96 09	84 20	35 70	3 98	
1853.					
Cadet Allston, Benjamin.....	108 00	65 00	43 00	.....	Georgetown, South Carolina.
Chambloss, R. C.....	93 59	100 00	.....	6 41	Hicksford, Greenville county, Virginia.
Otis, Elmore.....	72 01	39 00	33 01	.....	Huntington, Lorain county, Ohio.
Pelouse, L. M.....	88 17	60 00	28 17	.....	Philadelphia, Philadelphia county, Pennsylvania.
Walker, H. W.....	66 18	100 00	.....	33 82	Littletown, Surry county, Virginia.
Average.....	85 18	72 80	34 72	20 11	

D—Continued.

Recapitulation of five cadets of each class who have received the largest amount.

	Amount paid when graduated.	Am't deposited when entering, which is included in the preceding.	Amount paid, independent of deposit made.	Am't of indebtedness after deducting the deposit made on entering M. A.
Graduates—Year.....1848	\$115 37	\$30 70	\$84 67	.....
Do.....do.....1849	116 75	59 00	57 95	.....
Do.....do.....1850	118 12	50 95	67 77	.....
Do.....do.....1851	97 85	31 48	65 97	.....
Do.....do.....1852	155 52	68 40	87 12	.....
Do.....do.....1853	129 67	55 18	74 48	.....
Average.....	122 21	49 28	72 97	.....

Recapitulation of five cadets of each class who have received the smallest amount.

	Amount paid when graduated.	Am't deposited when entering, which is included in the preceding.	Amount paid, independent of deposit made.	Am't of indebtedness after deducting the deposit made on entering M. A.
Graduates—Year.....1848	\$102 19	\$79 60	\$33 99	\$23 00
Do.....do.....1849	80 64	85 27	9 02	25 09
Do.....do.....1850	90 07	76 60	20 78	15 77
Do.....do.....1851	51 64	74 20	10 75	44 79
Do.....do.....1852	66 09	84 20	35 70	3 98
Do.....do.....1843	85 58	72 80	34 72	20 11
Total average.....	84 37	78 77	24 16	22 12

R. S. SMITH,
Lieut. and Treasurer U. S. M. A.

TREASURER'S OFFICE, WEST POINT,
New York, June 14, 1854.

E.

AN ACT making appropriations for the support of the Military Academy for the year ending the 30th of June, 1855.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the following sums be, and the same are hereby, appropriated, out of any money in the treasury not otherwise appropriated, for the support of the Military Academy for the year ending the 30th of June, 1855:

For pay of officers, instructors, cadets, and musicians	\$88,266
For commutation of subsistence.....	2,190
For forage of officers' horses.....	960
For general repairs and improvements of academic buildings, abrracks, mess-rooms, officers' quarters, stables, roads, fences, parade and drill grounds, miscellaneous and incidental expenses, fuel, forage, and departments of instruction.....	29,725
For gradual increase and expense of library	1,000
For expenses of the board of visitors.....	3,000
For forage for artillery and cavalry horses.....	8,640
For enlarging and improving hospital of cadets.....	6,500
For cavalry exercise hall.....	20,000
For replacing dead and worn-out cavalry and artillery horses.....	1,000
	<u>161,281</u>

SEC. 2. *And be it further enacted,* That the compensation of master of the sword be \$1,200 per annum.

Approved May 10, 1854.

REPORT OF THE COMMITTEE ON POLICE TO THE BOARD OF VISITORS.

WEST POINT, N. Y., June 12, 1854.

The committee to whom was referred the matters connected with the police at the Military Academy and post at West Point respectfully beg leave to report:

That they have had the subjects properly coming before them under consideration, and find but few suggestions to make as to any changes or modifications that have not been previously urged and already provided for. When the improvements shall have been made in the extension of the accommodations of the cadet's hospital, and the erection of a new riding hall and stables for the horses, for which objects, it is understood, provision has been made by a recent act of Congress, some of the inconveniences heretofore often complained of will be removed. The committee would earnestly recommend that some increase of comfort and convenience be given to the residences of the different professors and assistants, by additions to the buildings, which the exigencies of their families have long demanded. In conformity with a recommendation by the able and accomplished superintendent, the committee feel that

it is their duty to point out the necessity of erecting a new set of buildings, for the quarters of the unmarried officers and those having small families connected with the Military Academy. Those now occupied by them are almost indispensably needed for the accommodation of the cadets.

The small additional expense required for these improvements will be amply compensated to the government and to the country, by securing, continually, the voluntary and cheerful service of those most competent to render it in the various departments; and it is deemed but just to those who devote their time, talents and energies to the business of teaching in this important national institution.

In the new barrack for the cadets every arrangement appears to have been made that could be desired. The rooms and furniture, dormitories and bedding are convenient and well adapted. The mess hall is spacious and commodious, and although some complaints have been heard among the cadets, the provisions furnished are believed to be abundant, wholesome, and generally well prepared. The baths for the officers and cadets, though, perhaps, not sufficiently numerous, nor at all times amply supplied with water, afford to all an opportunity of preserving those habits of cleanliness and neatness of person so necessary to the preservation of health and promotive of purity of mind.

In making their examinations into the condition and management of the hospitals, the committee had every facility afforded them by the eminent surgeon, Doctor Cuyler, and his very intelligent assistant, Doctor Barnes, and were indebted to them for important suggestions and information. The cadets' hospital was found to be in excellent order, but not sufficiently extensive to accommodate at all times all of the patients. There is, moreover, a great deficiency of bedsteads and other suitable furniture. In order to supply this need and to keep at the hospital a sufficient amount of proper articles of diet for the patients, the committee are forcibly impressed with the necessity of a small annual appropriation by Congress.

The hospital for the enlisted soldiers at this post is very complete, and every necessity appears to be amply provided. It is, in fact, a model establishment. The quarters for the dragoons, though exhibiting the same attention to order and neatness so generally to be met with at this place, are not sufficiently extensive—the men being entirely too much crowded in their sleeping apartments for health or comfort, and this defect should be speedily remedied.

The committee have had every facility for making their investigations offered by the superintendent and other officers, and heartily approve the general system of police regulations that have been adopted. The healthful and fine appearance of the cadets and others shew the benefits resulting from the sanitary rules that have been established. The prohibition of the use of all intoxicating drinks, and of tobacco, in all its forms, if vigorously enforced, will be found not to be the least important means adopted to preserve the health, morals and good deportment of the young gentlemen connected with the institution.

Your committee are pleased to mark the appearance of order and neatness maintained, generally, in the public buildings and grounds, and to observe that improvements in the latter are now in progress, under

the direction of the superintendent, which will greatly beautify the campus, and render it a more suitable field for the various exercises of the cadets.

Finally, your committee are highly gratified in finding every requisite here combined to render the alumni of the academy, by the soldier-like, manly bearing, and general intelligence which characterise them, useful members of society, ornaments to their respective families, and an honor to their country.

WM. W. LEA,
GEO. HOLTZBECHER,
L. B. DICKERSON.

REPORT OF THE COMMITTEE ON INSTRUCTION.

UNITED STATES MILITARY ACADEMY,
West Point, N. Y., June 12, 1854.

The undersigned, appointed a committee to examine and report upon the general course of instruction in the United States Military Academy, respectfully submit the following as their report. They have attended to their duty as well as the time allowed them would permit; to gain as perfect a knowledge as possible, your committee not only listened to the various examinations of classes by the different professors and their assistants, but they visited the section rooms, and observed the recitations, conducted by the instructors. And they are highly impressed with their learning and skill, no less than with their success in imparting knowledge to their pupils. The instructors and their assistants seem, in an eminent degree, to command the confidence of the corps of cadets; making them feel able to learn any thing required of them, and also sure of finding a valuable assistant and friend in their toilsome pursuit. The gentlemen of the corps of instruction need no compliment from us, for they are known by the country to be at the head of their respective departments; and it is no small commendation of the utility of the Military Academy to say that these, with but three or four exceptions, are graduates of the academy.

Your committee have been pleased with the general method of instruction—designed, as it appears to be, to secure, at once, those important objects of education: *thoroughness* and *completeness*.

To attain these objects, the several classes of cadets are subdivided into recitation sections, no one of which contains more than fourteen, and which average about ten members. To each of these sections a time for recitation is allowed, never less than one hour; and in mathematics, engineering, and natural philosophy, the recitation continues one hour and a half. This affords the professor or instructor ample opportunity to question every cadet minutely; to impart to him clear ideas if he is confused; and to drill him thoroughly at the blackboard. We hesitate not to say, that no other institution in our land, within our knowledge, affords such facilities for perfect drill and complete instruction as this. The practice of training students to the daily use of the chalk and the blackboard cannot be too highly commended; and your committee were gratified to find that, on every topic, the student is re-

quired to use these implements, which any intelligent teacher would prefer to text-books, if one or the other must be discarded. When a scholar is sent to the blackboard, with no assistance except a rule and a bit of chalk, and is required to construct a diagram, for demonstrating a principle in mathematics, or for illustrating the construction of a fort, a field-work, or bridge, or a building in engineering; or when he is thus to work out a difficult problem, or to make an analysis of a topic discussed in a treatise on ethics, he is thrown upon the resources of his own mind, and is compelled, as in the after duties of life he will be, to decide and act independently. Besides this, some very great practical results grow out of the use of the blackboard. The eye is trained to accurate measurement of distances and proportions; the hand is rendered skilful in executing all the varied motions necessary to draw lines, straight and curved, and to combine these together with angles, lights, and shadows, in such ways as to present, on a plain surface, the exact representation of a complicated machine. The mind itself, by this exercise, gains a new power over its thoughts, and becomes disciplined and strengthened for every practical work. The gentlemen of the Academic Board certainly deserve great credit for the perfection to which they have brought this system of blackboard exercise.

Your committee, on learning the extent of the course which the cadets are required to pursue, have been absolutely astonished to find how thoroughly they are made to master it all. No minute point, in theory or in application, seems to have been neglected in the instructions they have received; and scarcely a thing seemed, by their examination, to have been forgotten. This very desirable result could only have been accomplished by laborious and systematic study, in the solitude of the cadet's room, and by the most rigid and critical questioning and cross-examination, by the instructor, in the section room; accompanied, as it must have been, by drill and demonstration at the blackboard, and by constant and judicious review of the topics previously discussed. In addition to this, the instructors, by means of the small number of pupils brought into the section at once, and the large amount of time devoted to each recitation, are enabled to devote a large amount of personal attention to every student. This is, at once, more laborious, and more trying to the patience of the teacher; but, at the same time, is highly profitable to the student and to the country which he is to serve. This special attention to every cadet's difficulties and wants may, in part, account for both the thoroughness and extent of the education which he acquires in the Military Academy. But there can not be a doubt that health and vigor of body are derived from the various physical exercises—the drills in infantry tactics, and evolutions in cavalry practice—in artillery manœuvres—in fencing, in bathing, and in those abstemious habits which must be observed in regard to tobacco and alcoholic drinks—and that each and all of these materially contribute to confirm and promote mental health, and, consequently, not only aid the cadets to endure this prodigious amount of intellectual labor, but actually sharpen his faculties, and give a quickness of perception and a strength of thought never attained by the slovenly or the dissolute.

While your committee have been impressed with the idea that an extraordinary amount of study, considering the time devoted to a course in the academy, is performed, and that thoroughly, they are neverthe-

less well persuaded that a few topics ought to be added. They can conceive but three modes of accomplishing this: one, by requiring a higher preparation as a condition of admission; but this would, by leaving the cadets to study a portion of the course under different teachers, bring them to the academy, in many cases, badly taught on the elements. Another way would be to extend the time of the course to five years; a very wise suggestion as seems, and one almost annually made; and yet never tried as an experiment. A third course, and many may think it most practicable, would be to establish a preparatory school, from which youth might be transferred to the academy proper, while others, having qualifications similar to those trained in the preparatory school, might be at once admitted to the academy.

The committee, although it may be found impossible to comply with the suggestion, could not consistently discharge their duty without saying that in their opinion some practical instruction ought to be given in elocution. In several cases young men lost very much credit for good recitations by an indistinct and confused manner of enunciation. Any person who expects to command others, and exert a great influence over them, ought to be able to speak well and gracefully, clearly and without hesitation.

The subject of history is not taught in the academy, very much to our regret, as it is certainly a branch of great importance, especially the history of our country and military history—this should not be neglected.

The same might be said of political economy, a topic upon which every officer, whose duty is to direct the movements or employments of others, and to provide the means for their subsistence, should have reflected very diligently.

Similar remarks might be made in reference to the study of physiology. Men who are daily called upon to impose burdens of duty or hardship on others, and to care, at the same time, for their health and comfort, ought to be instructed in regard to the human constitution, its powers of endurance, and the laws of its healthful action and preservation.

Only one other remark remains to be made in reference to the thorough study of the English language. This should, by no means, be overlooked, in its higher branches, as rhetoric, or in that more common and more difficult one, higher English grammar; each of which your committee think command too little attention. No young man can lose time and waste labor in the diligent cultivation of an acquaintance with all the rules of instruction, and arrangement of the words and sentences of his mother-tongue. In several instances the cadets showed a carelessness as to both the selection, words, and the construction of sentences, at the examination, which, we are confident, would hardly have been tolerated by their accurate teachers in the section room, and which clearly proves the necessity for a rigid drill upon the nature and structure of the terse Anglo-Saxon language.

In conclusion, the committee beg leave to congratulate the nation on the general success which attends the labors of the instructors in the Military Academy. The grade and amount of instruction is believed to be as large as in any college in the land, and certainly the thorough-

ness with which that instruction is imparted cannot be excelled. The moral government and discipline are such as to secure prompt and quiet obedience to the constituted authorities, and to prepare young men first to submit to law, and hence to command with dignity and energy.

Respectfully submitted,

ROBERT ALLYN,
JOHN J. MORRISON,
Committee on Instruction.

To the BOARD OF VISITORS
of the U. S. Military Academy.

REPORT OF THE COMMITTEE ON DISCIPLINE.

WEST POINT, June 14, 1854.

The committee on discipline submit the following report:

Clear evidences of the strict discipline maintained in the military academy at this point have for the past two weeks come under the daily observations of the board. General order and system are apparent, and at once attract the attention of the stranger. Your committee, however, are glad to state that a careful examination into the more private departments of the institution but confirms this just impression. Indeed, if the printed regulations as furnished the board be enforced, the result could hardly be otherwise. That they are enforced, free conversation with the officers and cadets has satisfied us. Little more, therefore, is necessary in this report than to refer to these regulations. To give them in detail would be useless. The superintendent, in reply to a note from your committee requesting any suggestions he deemed advisable, stated that the systems of discipline as laid down in the regulations answers the purposes of the academy.

The two more prominent features of this system are, first, that it teaches the cadet subordination; and, second, the value of time.

No man is competent to command who is incompetent to obey. Prompt obedience to a lawful order is as essential to a good soldier and citizen as it is becoming the gentleman. And as it is a lesson hard for our American youth to learn, so is it a lesson rigidly to be taught. Indeed, several of the rules of the academy seem to recognize this idea, such, for instance, as that which requires "all persons of whatever rank to observe the greatest respect towards sentinels and cadets on post." In short, the entire police and discipline of the academy tend to teach the cadet that he has certain duties to perform, that no duty can be performed by an association of men without order, and, therefore, that it is honorable to obey.

The value of time, too, is most thoroughly shown the cadet. From five o'clock in the morning until ten o'clock at night, he may be said to be on duty; for the hours of relaxation are prescribed, and as much to be observed as the hours of drill and study. If the four years spent here resulted in nothing but fixed habits of employing the time they would be well spent. Without system in this respect men seldom

accomplish much. The wisdom of the rules on this subject cannot be over-rated. To rise early and to retire early, so far as your committee are informed, are taught at West Point alone of our institutions. The cadets are required not simply to be in their rooms at ten o'clock at night, but to be in bed. The happy effects of this discipline are to be seen in the cheerfulness and vigorous health of the cadets, as also in their high average scholarship. And perhaps it is a singular fact, that in many cases in low scholarship, and high demerit (if the phrase be allowable) may be traced directly to a spirit of insubordination. As a general rule, mental calibre being equal, good scholarship and discipline will be proportional.

Your committee have examined the system of punishment, and find it to be such as experience has proven most effective. And it may be well to add that when the punishment on account of demerit amounts to dismissal, the decision of the superintendent ought to be final. Instances of the bad effects of a remission of a cadet's sentence by the Secretary of War have occurred. The cadet should know absolutely that the judgment of his instructors and commanders here will not be reversed at Washington, except in cases of the grossest injustice. All of which is respectfully submitted.

JOHN B. HARMON.

TO THE BOARD OF VISITORS.

REPORT OF THE COMMITTEE ON ADMINISTRATION.

WEST POINT, *June 12, 1854.*

The committee to whom was referred the duties of enquiring into the administration of the United States Military Academy respectfully submit the following report:

We have, with all the care that the time at our command would permit, considered the organization of the academic and military staff; and it appears to us, that the rules and regulations laid down, and approved by the President for the government of the institution, are well adapted, and if those rules and regulations are strictly complied with and enforced, they seem to us sufficient for the well government of the same, and that they are enforced, so far as under the control of the academic and military staff, we are well satisfied, but that there are errors, as in all human institutions we are forced from the facts we have ascertained to believe.

Your committee find that the requirements of a cadet, to enter the Military Academy, are, that he "must be able to read and write well, and to perform with facility and accuracy the various operations of the four ground rules of arithmetic, of reduction, of simple and compound proportion, and of vulgar and decimal fractions, and to be sixteen years of age, and five feet in height," and that there are from ninety-five to one hundred and thirty cadets annually appointed, of whom, about thirty-five per cent. graduate, and it seems to your committee, that while the course pursued by the government, in the appointment of cadets is continued, that the rate will diminish rather than increase, for your committee are satisfied, from their appearance, that some of the

cadets appointed for the present year are not sixteen years old, and your committee presume they are an average specimen of the annual appointments; and many of them, perhaps, barely able to pass an examination in the rules of arithmetic above named; then how can it be expected that a cadet laboring under those disadvantages, unless he have more than an ordinary mind, can succeed, when his first years' studies at the academy are mathematics, comprising Bourdon's Algebra, Legendre's Geometry and Trigonometry and descriptive Geometry, English studies, including Bullion's Grammar, Blair's Rhetoric, and Morse's Geography, and the French language.

Your committee have ascertained that out of the ninety-six cadets appointed four years ago, there are but forty in the graduating class, the rest, or nearly all of them, having been found deficient during the first and second years, and sent home, or perhaps some of them may have resigned before an examination, which they found they could not pass.

Your committee would therefore recommend that a member of Congress, before he applies to the President for the appointment of a cadet from his congressional district, *be well satisfied that the applicant is a boy of good mind, sixteen years of age and fully five feet in height, and be able to read and write well, and to perform with facility and accuracy the various operations of the four ground rules of arithmetic, of reduction, of simple and compound proportion, and vulgar and decimal fractions*, that the cadet may have the physical strength to perform the duties of a soldier, and the mental faculties to master the studies laid before him; and if the government expect the professors of this institution, to educate men fit for all the varied duties of a soldier's life, it must furnish them with good materials. Your committee would further recommend that the course of studies at the academy be increased from four to five years, and the study of history and the Spanish language be added to the course of studies now pursued; as a want of knowledge in every one who claims the rank of a gentleman, of at least a general knowledge of the history of his own country, admits of no excuse, and that a large number of the officers of the army are now stationed upon the Mexican frontier, which number must be necessarily increased; from our increased and growing relations with Mexico, and their communications with the Mexican officers, either in time of peace or of war, would be very much facilitated by a general knowledge of the Spanish language, and add to the credit and the honor of the country that educated them. And that the Academic Board be authorized and required to classify and arrange the studies so as to promote the best interest of the institution, and that in classifying and arranging the studies the Academic Board have a due regard to the advancement and proficiency of the cadets when they enter the academy.

A correct statement of the public buildings, &c., at West Point is contained in exhibit A, which is hereto annexed and made part of this report.

Your committee, before closing their report, tender their warmest thanks to the academic and military staff, for their prompt, courteous and gentlemanly manner in which they have furnished your committee,

with all the information in relation to the administration of the Military Academy, which has really made the labor of your committee a pleasure.

H. M. KINSEY,
L. B. LUCKIT,
SAMUEL J. BAYARD.

A.

Report of the number and condition, &c., of the public buildings of the United States Military Academy at West Point, N. Y., June, 1854.

QUARTERMASTERS' OFFICE, U. S. ACADEMY,
West Point, N. Y., June 30, 1854.

1. *Cadets' Barracks*.—This is a four story castellated granite building, 360 feet long and 60 wide, with an L or wing to the rear 100 feet long by 60 wide. It contains 176 rooms, 136 of which are cadets' quarters, and are 22 by 14 feet; 40 rooms are occupied partly as officers' quarters, and partly by employés.

2. *Cadets' Guard-house*.—This is a small two-story brick building, in rear of the barracks, in which are the officers of the commandant of cadets, the officer in charge, the cadet adjutant, the guard rooms, fire apparatus, armories and cells.

3. *Academy*.—This is a granite building, with brown stone pilasters, 275 feet long, 75 feet broad, and three stories high. In the first story is the chemical laboratory, 75 by 38 feet, the fencing hall of the same dimensions; at the opposite end and between them, a large room 188 by 65 feet, used at present as a cavalry exercise hall. In the second story are the mineral cabinet and the engineering academy, each 75 by 38 feet; to the latter are attached two model rooms, each 46 by 22 feet. On the same story are twelve recitation rooms 24 by 22 feet. In the third story is the artillery model room 75 by 38 feet; the drawing academy of the same dimensions; to the latter are attached two galleries for pictures and statuary, each 70 by 22 feet; on this story are six other rooms for recitation and instruction.

4. *Mess hall*.—This is a granite building 170 by 64 feet. The centre is one room 100 feet long by 50 broad, and 20 in height, which is the mess room for all the cadets. The north wing is occupied as quarters by the purveyor of cadets, and the south by the mess rooms of the officers stationed at the academy. The kitchen, bakery, &c., are attached in the rear.

5. *Hospital of cadets*.—This is a plain granite house 130 by 40 feet. In the centre are eight wards for the sick, and quarters for the attendants in the basement. The wings are occupied as quarters by the surgeon and assistant surgeon.

6. *Chapel*.—This a granite building 100 by 53 feet, fitted up with pews, &c., for divine worship.

7. *Observatory and library*.—This is a granite building, capped and corniced with brown stone, gothic style. The east wing is the library, 46 feet square and 31 feet high; it contains nearly 1,700 volumes. The centre is the stand for the equatorial telescope, and the corner towers

are occupied by the transit instrument and mural circle. This building also contains the offices of the superintendent, the adjutant, the quartermaster, and the treasurer of the academy.

8. *Artillery laboratory*.—This consists of three two-story granite buildings and an enclosed yard, with shelter for guns.

9. *Hospital for troops*.—This is a two-story brick building, with one large ward, dispensary and steward's room on the first floor, and three wards in the upper story; kitchen, attendants' quarters, &c., in the basement.

10. *Equipments' shed*.—This is a large two-story brick building, 154 feet long and 54 feet wide. It contains the ponton train of the army, and all the equipments, tools, &c., shops, &c., of the engineer service.

11. *Engineer troops' barracks*.—This is a large one-story wooden building 120 by 22 feet, divided into four barrack rooms, with kitchen and mess rooms in the basement. There are also two detached buildings used as quarters, each about twenty feet square.

12. *Post guard-house*.—This is a two-story brick building, the basement of which is occupied by quarters for the engineer troops, and by cells. The first story is divided into quarters for the troops and the guard-room.

13. *Dragoons' barracks*.—This is a wooden building a story and a half high, 30 by 58 feet. The first story is divided into two barrack rooms. In the basement are the kitchen and mess rooms for both artillery and dragoons.

14. *Artillery barracks*.—A building 30 by 47 feet, similar in all respects to No. 13, in the basement of which is the store-room of the subsistence department of the post. Nos. 13 and 14 were built for workshops.

15. *Band barracks*.—These consist of two wooden buildings, one 52 by 108 feet, containing 22 rooms, and the other 43 by 53 feet, containing 10 rooms and a light and dark prison; the former is occupied by 23 men and their families, and the latter by 4 men and their families, or by 12 drummers and fifers.

16. *Cavalry stables*.—These are two stone buildings 155 by 23, and 75 by 23 feet, respectively, with stalls for forty-three horses. There is also a temporary shed which will accommodate 30 horses; the attics of the stone stables are used for storing forage, &c.

17. *Powder magazine*.—This is a fire-proof brick building 100 by 25 feet, surrounded by a brick wall.

18. *The quarters of the officers and professors of the academy*.—These consist of three double stone houses two stories each, five two-story brick buildings, and eight wooden buildings, one of which is in process of construction.

19. *Workshops*.—These consist of a blacksmith's shop and carpenter's shop, with lime-house, and two sheds for lumber, carts, &c.

20. *Commissary of cadets and sutler's store, tailor's shop, &c.*—These are two two-story wooden buildings, occupied as stated.

21. There is also, at the northern end of the post a row of nine small double cottages, built in 1837 for the accommodation of the non-commissioned officers and their families, and for the laundresses of the cadets and troops.

These buildings are all kept in repair by the funds provided under the general head of "repairs and improvements," and are in a good and serviceable state, leaving out of view their inherent defects, such as want of sufficient space, and liability to dampness on account of great variations in temperature. The latter is the case in the stone towers containing the astronomical instruments, while the former inconvenience is felt in the professors' quarters, the cadets' hospital, and in the barracks of the dragoons and artillery.

The larger of the two stables (No. 16) is much out of repair, the side wall having yielded, and requiring props.

To complete the set of buildings required for the institution, Congress has appropriated \$6,500 for enlarging the cadets' hospital, \$22,000 for building a cavalry exercise hall, and \$3,000 for additions to the quarters of officers of the academy.

An additional appropriation of \$5,000 was asked for the latter object, as well as \$20,000 to commence a building for the accommodation of the officers now quartered in the cadets' barracks, but were not granted. Should the corps of cadets be increased, the rooms now occupied by officers in the barracks would be necessary for cadets. An appropriation of \$8,000 has been made for new stables, to complete which an additional sum of \$10,000 will be required.

The building proposed for new barracks of dragoons (plans of which have been submitted to Washington) it is estimated will cost \$15,000.

The mode of expenditure, and the amount on hand of the funds appropriated for repairs and improvements are stated in the report on that subject from this office.

Respectfully submitted,

R. S. SMITH,

Lieut. and Quartermaster U. S. M. A.

CADETS' HOSPITAL, WEST POINT,

New York, June 12, 1854.

COLONEL: I have the honor to acknowledge the receipt of the enclosed transcript, from the minutes of the board of visitors, through the adjutant.

The enlargement and improvements in contemplation, and soon to be commenced, will doubtless render this hospital sufficiently commodious, and it is to be hoped, in every way convenient and comfortable to the sick. The furniture, as I have on several occasions reported, is insufficient and (what there is remaining yet) unfit for use, being old and worn out.

A small appropriation (\$500) for refurnishing the wards, and an annual appropriation of a hundred or two dollars to keep up the furniture, would not only contribute to the convenience and comfort of the sick, but, I think, actually necessary.

The present mode of employing attendants from among the laborers of the garrison for the cadets' hospital is manifestly objectionable. They should be enlisted expressly for the duty.

The health of the corps has been almost uninterrupted—only a few very serious cases of illness having occurred since the adjournment of the last board of visitors.

I am not aware of any sanitary rules being required beyond those already in operation.

The hospital for enlisted men is one of the most comfortable in the army, and is well managed by the medical officer in charge.

I am, sir, very respectfully, your obedient servant,

JNO. M. CUYLER,

Surgeon U. S. A.

Brevet Col. R. E. LEE,

Superintendent Military Academy.

RIVERS AND HARBORS, &c.

The works of this character, in charge of this department, have been prosecuted during the year with vigor and general success. The surveys in hand have, with four or five exceptions, where uncontrollable difficulties intervene, been prosecuted to completion; and projects of improvement, based upon them, have been furnished by the surveying officers for the consideration of Congress.

The works of improvement directed by the law have, most of them, been carried as far as the appropriations would go. A few are still in progress, being of a nature where more rapid advancement could only be effected by unwarrantable expenditures. The work thus far done, though generally incomplete, is, in many cases, affording valuable aid to commercial pursuits. The following instances may be partially enumerated, viz: improvement of Kennebeck river, Bridgeport harbor, Hudson river, New York harbor, the ice harbors of the Delaware, Cape Fear river, Mobile harbor, South West pass of the Mississippi, and Colorado river—together with a number of harbors of refuge along the Atlantic and Gulf coasts, protected or improved. A statement of the progress of operation in each case, follows:

Removing the rocks obstructing the navigation near Falls island, Cobscook bay, Maine.—No one has, as yet, been found willing to undertake this work for the amount of the appropriation. Efforts are still continued, and will be, to induce competent persons to offer for the work.

Breakwater at Owl's-head harbor, or at Rockland harbor, in Maine, as the War Department shall decide.—The delays incident to examining and deciding between the two localities in question, have prevented the commencement of the work to this time.

Balance in treasury, October 1, 1854.....	\$14,800 00
Probable amount to be expended by June 30, 1855	14,800 00

Improving the Kennebeck river, from the United States arsenal wharf, in Augusta, Maine, to Lovejoy's Narrows.—The work was commenced this season by applying a raking apparatus (devised by the officer in charge) that could be gauged to the varying depth of the water. This was suspended between two scows, that were connected by a platform, and towed by a steamer. The trial on Gage shoal has been very successful, removing the sand, gravel, &c., and exposing the large boulders, some of which reach the size of twenty-tons. These boulders have been removed by suitable machinery, and the rake will be set at work again. It is regarded as a most economical and efficient machine.

Breakwater at Richmond Island harbor, Maine.—This work continues in the condition reported last year; there being no funds for continuing it.

Repairing the breakwater in Portland harbor, Maine.—This work remains in the condition reported last year; there being no means for continuing it.

Protection of the Great Breuster island, in the harbor of Boston, Massachusetts.—The section of the sea wall for the protection of this island, put up this year, is 386 feet in length; the total length constructed up to this time, is 1,353 feet; there are yet required to be added to the north wall, 897 feet. The work has now reached to within 150 feet of the most salient point of the northeast head of the island. This head, rising seventy to eighty feet above low water, is rapidly wasting away. Until it shall be reached and protected, the unfinished work will be of little service, and is even exposed to be swept away.

Balance in treasury 1st October, 1854.....	\$6,100 00
Probable amount to be expended by 30th June, 1855.....	6,100 00

Protection of Lovell's island and sea-wall, on Deer island, Boston harbor, Massachusetts.—The injury to these works is increasing from delay. The engineer in charge estimates that it will now require \$1,000 more for their repair than would have sufficed last year.

Survey in reference to the improvement of the harbor of Scituate, in connexion with the North river, Massachusetts.—The survey shows, that by the expenditure of a large sum of money, this position may be made a harbor of refuge for the commerce of Boston, when it would become of national importance.

The surveying officer estimates for the following improvements, as desirable in this point of view: Dredging harbor, \$50,000; breakwater, \$123,750; canal, \$50,000; other expenditures, \$26,250. Total, \$250,000.

Repairing the injuries done to the government works, on Plymouth beach, in the great storm of 1851.—The closing of operations, the means being exhausted was reported last year. The works, where not repaired last season, are in a state needing attention; but further means are necessary, and for repair of injuries arising from the ordinary action of the elements and the lapse of time.

Preservation of Cape Cod harbor, at or near Provincetown, Massachusetts.—120 acres of barren sand beach to the north and northwest of Provincetown have been covered with transplanted beach grass, and a bulk head of timber 1,151 feet in length has been placed upon Long Point beach. It is believed that these measures will preserve the harbor from the drifting sands.

Preservation of Great Wood's Hole harbor, Massachusetts.—Operations were closed, for want of funds, at the date of last year's report. Nothing has been done since.

Repairing the breakwater at Hyannis harbor, Massachusetts.—The appropriation was exhausted soon after last year's report, since which nothing more has been done. 750 feet of the breakwater still remain uncapped, and consequently in an exposed condition.

Survey of Taunton river and New Bedford harbor, Massachusetts.
Taunton river.—A general map of the river with detailed plans of the shoals was prepared from the survey made a year ago. The river is thirteen miles long from its mouth to Taunton, navigable for coasters for four miles up, and at the highest tide for three and-a-half miles further for vessels drawing thirteen feet. Thence to Taunton, five and-a-half miles further, but six feet can be carried, the river becoming narrow and tortuous, and being obstructed by several shoals, composed of gravel and boulders. The plan of improvement proposed by the officer in charge, is, to excavate a channel sixty feet wide, and to the depth, at low water, of four feet, through the several bars and shoals, and to remove some rocks found near the channel. Taunton contains a population of 12,000 people, has a large capital actually employed in manufactures and the coasting trade, exports annually to the value of about three millions dollars, imports largely of breadstuffs, coal and raw materials, and is the centre of a populous manufacturing district.

The survey of New Bedford harbor was completed, and the report presented last year.

Removing obstructions near the mouth of Seekonk river, harbor of Providence, Rhode Island.—The contract for this work has been satisfactorily completed, and 17,000 cubic yards of earth removed from the obstruction of the crook; by which a channel one hundred and fifty feet wide, and nine feet least depth at low water, has been made over a length of two hundred and eighty yards, from Fox's point to the main channel of the river below. The value of the improvement would be much enhanced by the completion of the project. This requires the cut to be widened by an addition of one hundred feet on its western side.

Improvement of the harbor of Bridgeport, Connecticut.—This improvement has been carried as far as the means would admit. A cut one hundred feet wide, with a minimum depth of eight feet at low water, has been made over both the inner and outer bars. Vessels drawing sixteen feet water can now be taken in at high water. 16,756 cubic yards have been removed from the inner and 10,893 from the outer bar.

The whole has been satisfactorily completed by the contractor. To complete this improvement, according to the project, the cuts should be widened to 200 feet.

Removing middle rock, New Haven harbor, Connecticut.—Nothing has been done at this work since last year, when, as then reported, it was abandoned by the contractor.

Balance in treasury, October 1, 1854..... \$5,900 00

Continuing the improvement of the navigation of the Hudson River above and below Albany, and not above Troy.—During the past year the operations for the improvement of this river have been confined almost exclusively to removing the obstructions to navigation caused by the various bars which have been formed. In furtherance of this object two, and the latter part of the year three, dredging machines have been at work, which have excavated from the bed of the river, at *nine mile tree bar*, near Castleton, 59,022 cubic yards of solid matter, which has rendered the channel of the uniform depth of eight feet at low water, and they are now at work on *Mull's bar*, having taken up 39,390 cubic yards. Total amount of excavation to September 30, 98,412 cubic yards. During the month of October there have been further excavated at *Mull's bar* 39,366 cubic yards. Very great advantages have been secured to the navigation by the work thus far; it will continue until arrested by ice or freshets.

Balance in treasury, October 1, 1854..... \$31,652 14
Probable amount to be expended by June 1, 1855 31,652 14

Further improvement of the harbor of New York, by removing the rocks at Hell Gate and Diamond reef, in the East River.—The work was suspended last year, the appropriation being nearly exhausted, since when nothing further has been done.

Removal of the bar at the junction of the Passaic and Hackensack rivers, in Newark bay, New Jersey.—The contractor for this work has removed from the shoalest part of the bar 33,265 cubic yards of earth, on a width of 100 feet, which appears to have produced a decided improvement in the navigation at that point. The work of producing a suitable channel, however, is still unfinished, and the appropriation is exhausted.

Repairing the public work at Little Egg harbor, New Jersey.—It was stated in my report of last year that great changes were wrought on this part of the coast by natural causes that had swept away the former constructions, and that further investigations were necessary before deciding on any process of improvement. Such examination it has not been possible for this department to have made as yet.

Balance in treasury, October 1, 1854..... \$8,452 00

Continuation of the Delaware breakwater.—The small appropriation for this work was exhausted at the date of last year's report, since when nothing has been done beyond care of the public property.

Construction of a harbor on the east side of Reedy Island, Port Penn, Delaware.—At the date of last year's report, four piers of the lower line of this harbor were finished and the fifth under way. This fifth was finished, and the piles of the two inner piers of the upper line were driven by Christmas, when the rigor of winter put a stop to work. The harbor, though but partially formed, was of great service to navigation during the season of ice, and all the work, including the unfinished piers, withstood the severe trials of the winter's exposure very satisfactorily. The plan of the structures has proved very suitable to the position; they are not rigid enough to be cut into by the running ice, and admitting the flow of water through them, they produce no disturbance of the currents of the river, or alteration of its bottom. Operations were resumed in April and continued till July, when the appropriation was exhausted. The outer pier of the lower line is completed; number two of the upper line nearly so; number one, next the shore, remain incomplete.

Repairing the piers and improving the harbor of New Castle, Delaware.—The upper hexagonal pier built in 1836, had been injured by ice and vessels running against it and displacing the stone. These were re-adjusted, the top covered with blocks two feet thick, securely wedged together. A large crib pier for the lower line of the harbor was built in Philadelphia, floated down to the harbor, and sunk and secured in its position in the fall; during the winter it was filled with stone, and completed in all respects by the middle of April last. The winter's experience proved this to be a most serviceable addition to the harbor.

Improvement of the Patapsco river, from Fort McHenry to the mouth of said river.—The steam-dredge constructed under the appropriation for a dredge for the waters of the Chesapeake and Atlantic coast, was put in operation as soon as accepted, on the improvement of this river. The dredge has co-operated with the vessels and apparatus provided by the city of Baltimore for the improvement, and their joint efforts have opened the channel from just below Fort Carroll to opposite the Bodkin light. To complete the improvement within a reasonable period, additional steam-dredges are necessary.

Balance in treasury, October 1, 1854.....	\$16,000
Probable amount to be expended by June 30, 1855.....	16,000

Removing obstructions at the mouth of the Susquehannah river near Havre de Grace, Maryland.—It having been found impracticable to obtain a dredging machine to effect this improvement, nothing has been done during the year. The appropriation is too small to admit of the purchase of machinery for the work.

Balance in treasury October 1, 1854.....	\$9,900 00
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Construction of a steam-dredge, equipment and discharging scows for the waters of the Chesapeake bay and Atlantic coast.—The dredge and equipment contracted for under this appropriation, was accepted in October last. It was then put in successful operation in the Patapsco river, and is now employed there. It works well.

Balance in treasury, October 1, 1854.....	\$2,800
Probable amount to be expended by June 30, 1855.....	2,800

Improvement of the James and Appamattox rivers below the cities of Richmond and Petersburg, Virginia. James river.—A steam dredging machine, the property of the city of Richmond has been employed in the improvement of this river since March last. It was put to work on the Warwick bar, and has been steadily employed there since. The amount of excavation effected is 38,556 cubic yards. The obstructions will soon be entirely removed from that shoal.

Appamattox river.—But little progress has been made in the improvement of this river, in consequence of the inefficient action of the contractor, who at length (in June last) abandoned the work. No new arrangement has yet been made for its prosecution. The north channel, opposite Stein's upper cut, has been partly opened, and two wrecks obstructing it have been removed.

Balance in treasury, October 1, 1854.....	\$21,500
Probable amount to be expended by 30th June, 1855.....	21,500

Survey of the Rappahannock river, Virginia.—This work is in progress, under the direction of the superintendent of the United States coast survey. One general topographical map and three sheets of soundings have been received from the office of that survey.

Balance in treasury, October 1, 1854.....	\$1,100 00
Probable amount to be expended by June 30, 1855.....	1,100 00

Reopening a communication between Albemarle Sound, North Carolina, and the Atlantic ocean, by the construction of a breakwater across Cavatan Sound.—The law prescribing a breakwater as the exclusive mode of effecting this improvement, the work, as stated last year, is deferred, until legislative action can be had, removing the restriction as to the means, it being the opinion of the engineer in charge that the construction of a breakwater, if not prejudicial, would, at any rate, be quite useless, for the desired improvement.

Balance in treasury, October 1, 1854.....	\$49,700 00
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Completing the improvement of Washington harbor, North Carolina.—This improvement has been continued during the past year, and is expected to be soon completed with the funds in hand.

Improving Cape Fear river, North Carolina, at or near its communication with the ocean.—The jetty commenced for the protection of Bald Head in August, 1853, has been carried out 300 feet beyond the original high-water line. It has had all the effect anticipated; has caused a large accumulation of sand, and will, probably, with some subsidiary works now partly constructed, continue to afford the desired protection. In March last, preparations were commenced for closing the three open.

ings south of New Inlet, by means of breakwaters of granite and logs. Temporary quarters and work shops have been erected; an excellent wharf built on the north side of Zeak's island; and a railroad constructed from the wharf along Zeak's island, towards the inlets to be closed. This road, running much of the way over water, is very costly, but is indispensable to the work. The preparations for receiving stone rapidly are nearly complete; so that the officer in charge reports that he can apply \$100,000 to the work, the next year, advantageously.

Balance in treasury, October 1, 1854.....	\$125,000 00
Probable amount to be expended to June 30, 1855.....	100,000 00

Survey of the harbor of Georgetown, South Carolina.—This survey was executed under the auspices of the Coast Survey. There are four channels leading into the harbor. The main ship channel, the southeast pass, the new channel, and the Point channel. The first three have about seven feet water; at low water the last is constantly changing, and is unreliable. The tide runs four and a half feet. The main ship-channel has changed in position, within a few years, to the south and west. The southeast pass is more direct than the main ship channel, and is preferred by navigators. The new channel offers the shortest passage to the ocean, and is thought to be improving in depth. This tendency might be aided by a jetty at right angles to the shore line of North Island, from a point near its southern end. Such a work, however, would be of great extent, and could only be constructed by a heavy outlay.

Improvement of the harbor of Charleston, South Carolina.—The large and powerful vessel designed for this service arrived at Charleston after some delay; and the good quality of the hull and machinery having been ascertained, some experiments have since been made with her, to test her capacity and suitableness for dredging in the exposed situation where she is required to work; accidents have occurred which have prevented the experiments being continued long enough to furnish the data for a fair estimate of her abilities; it is supposed further trials will be made, and if these give satisfactory results, the vessel will be set at work on the contemplated improvement.

Balance in Treasury, October 1, 1854.....	\$42,600 00
Probable amount to be expended by June 30, 1855.....	42,600 00

Dike to Drunken Dick Shoal, Charleston harbor, South Carolina.—This work is suspended during the operations of the proposed channel in its vicinity.

Removal of obstructions in the Savannah river, at a place called The Wrecks, and the improvement of the navigation of said river.—The operations, so far, have consisted in deepening and widening the channel at The Wrecks, and over the Garden bank, and in partly closing the Fig island channel with a double row of piling. The dredging operations have effected a channel of 300 feet wide over The Wrecks, and have increased the width at Garden bank by 75 feet. Fig island channel has been closed

to within 275 feet of Hutchinson's island, and the ebb tide is thus, in a measure, confined to the Front river. The storm of the 8th and 9th of September backed up the water 3 or 4 feet above the piling of this dam, and floated off large amounts of timber from up the river, which coming down with the current, and drifting against the piling, finally lifted about 50 feet of it, and carried it off. The whole injury done to the improvement by the storm is estimated at \$6,000. The appropriation made by Congress is exhausted, and the city of Savannah has expended about \$40,000, in addition, on the works. The officer in charge estimates for \$80,000, as a proper sum for this year's operations.

Survey of the river Ockmulgee, Georgia.—This survey was commenced last February, and prosecuted until April, with the prospect of its completion during that month; but it became necessary to call the officer in charge to meet a commission to study the improvement of the St. John's river, Florida, which work was also in his care, and thence he has since been necessarily removed to Savannah and Charleston, where he has been so engaged that it has not been possible to complete the survey to this time.

Survey of the river Savannah, from Savannah to Augusta, Georgia.—The survey is completed, and maps of the river, showing its general courses and distances, with the character of the bordering country, have been prepared, as likewise charts, on a larger scale, of the shoals and bars, with ample series of soundings. With the aid of these, the question of improvement has been studied and a project with estimates has been prepared.

Repairs of sea-wall, St. Augustine, Florida.—The necessary repairs have been completed. They consist of pointing open joints; filling large cavities in the wall with fine concrete; and underlaying the foundation to the extent of 300 or 400 feet with new work, where the lash of the sea had exposed and injured the work. A small balance remains in hand applicable to future injuries.

Filling in behind the United States sea-wall, in the harbor of St. Augustine, Florida.—The appropriation for this purpose has enabled the filling to be brought up to within two feet of the top of the wall—the tide is now excluded. For the present the completion of the filling may be deferred.

Improvement of the river St. John's, Florida.—The commission assembled to deliberate on this improvement recommended that, in the first place, an accurate survey of the river as far up as Jacksonville should be obtained. Arrangements for making this survey have been entered into with the Coast Survey, by which the work will be commenced this fall.

Balance in treasury October 1, 1854.....\$7,938 55

Connecting the waters of the Indian river and Moschetto lagoon at the Haulover, Florida.—These waters have been connected by a suitable

canal according to the contract made therefor. The canal should be extended into the lagoon, to prevent its mouth from shoaling up.

Improvement of the harbor at Mobile, Alabama, at Dog river bar, and the Choctaw Pass.—The appropriation for this work has been applied to the construction of a dredging vessel, with four attendant scows, and to dredging operations at Dog river bar. The apparatus was received the latter part of March, and after some time bestowed upon remedying defects, strengthening the machinery and fixtures, and organizing the force, work was commenced on the 1st May. It was determined to begin by opening a cut of 100 feet wide to a depth of ten feet, at Dog river bar, to be afterwards deepened and widened. In May, June, July and August, 32,000 cubic yards of matter was removed. It was then found necessary to have the bottom of the dredge and scows covered with a protection against the marine worms, which were becoming troublesome, in consequence of the protracted drought allowing the sea-water to come up the bay. For this purpose the vessel and scows have been taken up to Mobile, where they are now receiving the requisite protection and repairs. When these are effected the work of dredging will be resumed. For continuing the work, the officer in charge asks a grant of \$100,000, for the next year, which will be applied to opening a cut of 12 feet deep through the two shoals, direct to the city—this to be widened to 300 feet, with the aid of another appropriation.

Balance in treasury, October 1, 1854.....	\$9,963 62
Probable amount to be expended by June 30, 1855	9,963 62

Survey of the east Pascagoula river, Mississippi.—The survey of this entrance makes it probable that no permanent channel can be opened through the sandy bars at the entrance; a temporary opening affording six feet of water, with a width of 100 feet, would cost about \$6,600,

Balance in treasury, October 1, 1854.....	\$4,000 00
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Construction of a harbor on Lake Pontchartrain, near the city of New Orleans.—The section of this work, 1,500 feet long, commenced in July 1853, is still in progress, having been delayed by storms and sickness. It may be expected to be finished in November.

Balance in treasury, October 1, 1854	\$13,000 00
Probable amount to be expended by June 30, 1855.....	13,000 00

Opening a ship channel of sufficient capacity to accommodate the wants of commerce through the most convenient pass leading from the Mississippi river into the Gulf of Mexico.—From the nature and condition of the river, this channel, reported finished last year, is, as was anticipated, gradually filling up, and without the aid of annual repairs it will soon revert to its natural condition.

Brazos river.—The survey of this river has been completed—the requisite improvements are estimated to cost \$44,000.

Improvement of the navigation of the Colorado river, Texas.—The vessel formerly employed for this purpose, having been purchased and repaired by the government, was set to work in November last. Instead of removing the raft and opening the navigation of the main river, for which the appropriation was inadequate, a lateral channel through a series of lakes was commenced, and the work having been vigorously prosecuted during the winter, it proved entirely successful, so that in March a boat was passed through. The new channel is reported to be steadily improving, and has already been of much utility. A number of cotton boats have passed through, as well as two steamboats, one of which has made several trips loaded.

WASHINGTON AQUEDUCT.

Supply of water for the cities of Washington and Georgetown.—The lands for the line from the Great Falls to the district boundary have been condemned, under a law passed by Maryland.

Quarries for the cut stone for the bridges, &c.. and of rough stone for the dam, have been purchased, with a site for the Virginia abutment, that State having passed a law giving its consent.

Quarters, workshops, and other houses at the Falls, have been erected; derricks and other machinery prepared; a careful final location of the line has been completed; and the line prepared for letting the grading out by contract. A contract for the supply of bricks has been made.

The first three tunnels have been begun, and about 450 feet of them completed; a small portion of the brick conduit has been built, and a large portion of the line near the falls has been excavated, and the foundation prepared for the masonry.

The river has been gauged at a very low stage, and the quantity of water flowing in it ascertained to be more than thirteen times the quantity needed for the aqueduct.

Estimate of amount required to be appropriated for the
fiscal year ending June 30, 1856.....\$1,000,000 00

All of which is respectfully submitted,

JOSEPH G. TOTTEN,
Brevet Brigadier General Topographical Engineers.

REPORT OF THE COLONEL OF TOPOGRAPHICAL ENGINEERS.

BUREAU OF TOPOGRAPHICAL ENGINEERS,
Washington, November 11, 1854.

SIR: I have the honor to submit the annual report of this bureau. Considering it would be more satisfactory, as exhibiting more matter in detail, I have subjoined copies of the annual reports of the several officers in the actual command or direction of operations in the field. I have therefore subjoined to this report as an appendix—

1. The report of Capt. J. N. Macomb, in relation to the survey of the lakes, appendix A.

2. The report of Brevet Col. Turnbull, in relation to works on Lake Champlain, works on Lake Ontario, and the harbors of Buffalo, Dunkirk and Erie on Lake Erie, appendix B.

3. All other works on Lake Erie, being the annual report of Capt. Stansbury, appendix C.

4 Works on Lake Michigan and Lake St. Clair, being the report of Brevet Lieut. Colonel Graham, appendix D. [Not yet received at this Bureau.]

5. The annual report of Brevet Lieut. Colonel Johnston in relation to the western rivers, appendix E.

Appendix F. embraces the various reports of the Board of Engineers, subsequent to the annual report of last year.

In a former report I referred to the measurement of a base line for the survey of the lakes by Capt. Thomas J. Lee. His report of that duty will be found as appendix G.

The information possessed in this office in relation to the Florida canal survey will be found in appendix H.

And Capt. Simpson's report of the Minnesota roads will be found as appendix I.

Respectfully, sir, your obedient servant,

J. J. ABERT,

Col. Corps Topographical Engineers.

Hon. JEFFERSON DAVIS,

Secretary of War.

APPENDIX A.

ANNUAL REPORT ON THE SURVEY OF THE NORTH AND NORTHWEST-ERN LAKES.

MACKINAC, MICHIGAN, *October 9, 1854.*

SIR: For the information of the Bureau of Topographical Engineers, I have the honor to present the following account of the operations of the force under my command during the time which has elapsed since I made my last annual report. In accordance with orders received

from the bureau, I left the headquarters of the survey very soon after following the parties in from the field in October last, and repaired to Washington city to attend to the settlement of my accounts and to some of the general duties of the survey, which employed me at the bureau for about three months. During my absence from the office in Detroit the officers and assistants of the work were engaged under the immediate supervision of Captain E. P. Scammon, topographical engineers, in making the computations and drawings appertaining to their respective subdivisions of the survey.

During the month of January my force was diminished by detaching Lieut. Mendell, topographical engineers, who was assigned to duty in the "Department of the Pacific." His place has not yet been supplied.

In the month of February I made application to the bureau for authority to employ a computer and draughtsman qualified to prepare some of our work for the engraver. My application having been approved by the War Department, I succeeded in securing the services of Mr. A. Boschke, who joined me in Detroit early in April, and at once began the projection and the reductions from our detail maps, for the chart of the Straits of Mackinac, now in the hands of the engraver. The operations of the draughtsman subjected the work to new tests which afforded gratifying proof of its accuracy.

In the month of May Captain Scammon, having fitted out a large party for the purpose, resumed his duties in the field, and continued the survey of the St. Mary's river, to which he had been assigned by me, with the approbation of the bureau, on his return from duty in Florida in the preceding year. His first duty in the spring was to mark out the channel near the west shore of the East Neebish reach of the river, and thus render available at once to the navigation one of the important results developed by his work of last year. This was done by a system of land-marks devised for the particular locality in question by Captain Scammon and myself, and it has been pronounced by those who navigate there to be the best plan of marking a channel that has yet been practised upon these waters. A sketch of this navigation has recently been engraved and published by the bureau. Captain Scammon has recently gone in from the field with voluminous notes and sketches, having completed the survey of the river, from Lake Huron to the Saut St. Mary. The interest in this field is now greatly increased among all concerned in the commerce and navigation of the lakes by the expected opening of the ship canal to Lake Superior; but it is to be apprehended that some delay must necessarily arise in the publication of the results of the river survey, in consequence of the orders which have lately been received detaching from the survey of the lakes the officer in whose charge that subdivision of the work was carried on.

The party in charge of First Lieut. W. F. Reynolds, topographical engineers, also took the field in the month of May, and resumed operations at the western limits of last season's work, and extended the survey over the northern section of the Beaver island group, embracing a very extensive field of hydrography, in which the party suffered many interruptions from the exposed situation of the field. In the month of September this party relinquished the survey of the Beaver

islands, and was placed by me upon the north coast of Lake Michigan, to carry on the shore-line work and the hydrography of that coast, under the immediate charge of Assistant Lamson, Lieutenant Raynolds having been previously directed to commence a series of observations for lunar culminations, &c., at the astronomical station on Round island, near Mackinac.

The movement to the north coast was made for the purpose of avoiding the boisterous weather of the fall about the islands, and with a view of pushing forward the work to the westward in as compact a form as possible.

The following is an account of the operations of the subdivision in my immediate direction, assisted by Lieut. G. W. Rose, topographical engineers. The steamer Surveyor having been fitted out in May, we spent the first three days of June in the survey of a reef in the west end of Lake Erie, which was not discovered at the time of making the general survey of that section. This additional information was duly reported to the bureau, and an account of it published in the newspapers at the time; the result will appear in the future editions of our chart of that lake. After paying the accounts in Detroit for supplies of our parties, I repaired to the Straits of Mackinac, by the middle of June, where my first duty was to extend the line of survey of the south coast, with the in-shore soundings, some five miles, as required towards the proper filling up of the chart of that section of the survey. In the course of the season three other detached pieces of work, beyond the reach of the shore parties, were executed by us towards the same object; two of these were surveys of reefs heretofore discovered by my party in the steamer Surveyor, and the third was the survey of a reef of great extent in the middle of the western section of the straits, which was discovered by us this season. It is now confidently believed that every such danger within the limits of the chart we are about to put forth has been thoroughly surveyed; it is certainly to be hoped so, for we have already laid down no less than thirteen detached reefs, shoal enough to "fetch up" any of the craft usually engaged in the lake navigation. These reefs have heretofore been very much dreaded, from the want of knowledge as to their exact positions.

In addition to the execution of the above named detached surveys, my time has been devoted, for the greater part of the season, to the extension of the main triangulation to the westward, and to the continuation of the deep-water soundings; for this work four triangulation stations of the first class in point of height and solidity were required. The erecting of these stations and the clearing of the ground required a great deal of labor, but much of it was bestowed at times when the state of the weather was such as to prevent the carrying on of any other kind of work. In the new triangles which I have measured the sides are from ten to twenty miles in length. This last is the greatest distance over which I have as yet succeeded in commanding perfect views where both stations were upon the lake beach, where, for the uses of the hydrographic part of the survey, it is, in general, indispensable to have them; for if the interior heights are sought out and occupied for the triangulation, it can rarely be done without great labor of cutting out lines of view, still leaving the station masked from most

parts of the water within the command due to the height of the hills. These considerations have determined me to occupy for the triangulation, in this thickly-wooded country, the salient points of the coast, rather than the interior hills, except in a few peculiarly favorable cases, where a small amount of clearing will open the view from the summit to as much of the horizon as it may be desirable to command for the perfect connexion of the hydrography and triangulation.

The amount and description of work executed during the past season by the different parties is shown in the following abstracts, from which it will be seen that in all upwards of *one hundred thousand* soundings have been made this year. The actual number recorded is 101,105, which we have the means of laying down upon our charts. In addition to these, many others are made in preliminary examinations to guide us in laying out the work.

Abstract of work by Capt. Macomb's party on board the steamer Surveyor, season of 1854.

5 miles of shore line.

5 triangulation stations built, 2 of which for secondary triangles.

1,429 soundings from small boats.

668 soundings in deep water, from steamer.

9 sounding stations built.

8 tripods set on reefs, distant from 2 to 10 miles from land.

80 buoys located.

454 sextant angles, for locating soundings.

309 theodolite angles.

6 observations for magnetic variation.

3 observations on Polaris for true meridian.

Abstract of work by Capt. E. P. Scammon's party in the river St. Mary's, season of 1854.

3 base lines, 2,119.9, 1,137, and 702 feet long, cleared and measured with rods.

178 triangulation stations built, 7 of them from 10 to 25 feet high, and 4 of them being cribs in the water, to avoid cutting lines of sight and measuring long bases.

11 tripods placed on shoals and reefs.

455 sounding stations built.

182 buoys located.

7 miles of cutting, lines of sight 10 feet wide.

15,662 theodolite readings have been made.

709 sextant angles for locating soundings.

409 magnetic readings.

4 observations for true meridian.

50 triangulation stations, and ninety sounding stations repaired.

250 miles of shore line sketched.

55,221 soundings taken.

6 camps have been established at intervals averaging seven miles, and the stores, &c., moved by the party in barges.

The whole work has been computed in detached parts, to afford the requisite basis of the field sketching; this is to be raised before making the final map.

Abstract by the party under First Lieutenant Raynolds, Topographical Engineers, for the season of 1854.

- 70 miles of shore line run.
- 20 miles of roads and streams surveyed.
- 317 buoys located.
- 112 sounding stations built.
- 43,787 casts of the lead made.
- 3 tripod water stations placed on shoals, one at five miles from land.
- 6,602 theodolite readings for shore line and buoy locations.
- 246 compass readings.
- 5 observations for true meridian.
- 131 square miles of hydrography.

For purposes of secondary triangulation.

- 22 triangulation stations built, (sixteen of them from ten to thirty feet high.)
- 4 miles of cutting through the woods for lines of sight.
- 1,874 pointings of ten seconds Gambey theodolite.
- 5 camps have been established at intervals averaging ten miles ; in the two longest moves we were aided by the steamer Surveyor ; all of the moves were in the open lake.
- 165 meridian passages of stars observed at the astronomical station, including those observed in connexion with the moon ; those observed for time, for deviation in azimuth, error of collimation, and value of the interval between the wires.
- 16 meridian passages of the moon, observed at the same place.

General remarks.

The experience of the past season has confirmed my opinion in favor of the methods and appliances which have been made use of in the prosecution of this great work since it has been in my charge. We have thus far been operating where we have enjoyed the very great advantage of being able to cover the field by a chain of triangles. This triangulation has been extended as far to the eastward as practicable, the expansion of the straits into Lake Huron becoming so great beyond the present limits of our work that the views across the water, from land to land, can no longer be commanded in such directions as to form a good chain, and I am unwilling to recommend the plan of cutting through the woods lines of view into the interior for the purpose of making a chain of triangles along the coast ; but the plan which I would recommend for the extension of the survey of the lake coast beyond those limits where we can triangulate across the waters is, to establish stations on salient points of the shore, so that each station shall command a view of the stations next to it up and down the coast. By this means there will be formed a series of lines of sight, in which the angle should be carefully measured at each station between the two lines which meet there.

The distances between these stations would be from about six to twelve or fourteen miles, according to the form of the coast, and should be computed from lines of survey run out with the theodolite and chain along the beach, and verified by minor triangulation or rechainning. The latitude and azimuth should be observed at the beginning of such a line, and carried on by computation with the formula for computing the geodetic latitudes, longitudes, and azimuths, (as given in "Lee's Tables," second edition, page 65,) and verified by new astronomical observations at intervals of from sixty to one hundred miles. This method, depending for its verification on observed differences of *latitude*, is peculiarly applicable to coasts the general direction of which is nearly north and south, which happens to be the case with very much of the coasts of Lakes Huron and Michigan, lying beyond reach of our triangulations. These coast line measurements would be the proper duty of the party in charge of the coast hydrography of the district, because there will always be found ample time to do justice to measurement and verification of these lines whilst waiting for suitable weather in which to operate upon the water.

There should be a distinct party for the astronomical observations, which party might attend to noting the changes of water level and force and direction of currents in the vicinity of the coast observations, but should be charged with as little as possible besides the astronomy. Our force has always been too small to admit of a detail for astronomical duty without curtailing other operations which it was equally desirable to advance.

I would recommend that the work about the Beaver islands be finished next season, and that the main triangulation be pushed to the westward to Green Bay, if practicable, and also to the southward towards the Manitous of Lake Michigan, as far as time will allow. On this duty the steamer Surveyor could, when repaired, be profitably employed. I would also recommend that the survey of the St. Mary's river be extended from the Saut to Lake Superior, and that a party be sent up the south coast of that lake to make harbor surveys, as a commencement of work in that quarter. These harbor surveys should be thorough hydrographic surveys, embracing everything for a distance of at least five miles each way up and down the coast from any harbor of such importance as to require particular attention at this time.

With this report I beg leave to present an estimate for continuing the operations next year, in which it will be noticed that I have asked for additional funds for the construction of a new steamer for carrying on this work. Since the time of making my first estimate for this object last year there has been so great an advance in the prices of materials and labor that the sum then asked for, and granted, is found to be inadequate to the purchase of such a vessel as the work requires.

Estimate of funds required for the survey of the north and northwestern lakes, for the year ending June 30, 1856.

Party on the surveying steamer:		
1 assistant at.....	\$3 50 a day (6 m'hs) 183 days.	\$640 50
1... do	2 50..do	457 50
1 chief mate or sailing master....	\$2 00..do	366 00
1 second mate.....	1 50..do	274 50
1 first engineer	2 00..do	366 00
1 second engineer.....	1 50..do	274 50
1 carpenter.....	1 50..do	274 50
1 steward.....	1 00..do	183 00
1 assistant to steward	83..do	151 87
1 cook	1 00..do	183 00
3 firemen and coal-heavers.....	83..do each.....	455 61
1 leadsman.....	1 00..do	183 00
15 men, (boats' crews).....	70..do each.....	1,921 50
200 tons of coal at \$6 a ton.....		1,200 00
Supplies for party, six months.....		2,500 00
		9,431 48
Contingencies, 10 per cent.....		943 15
		\$10,374 63
For a shore party for one month:		
1 assistant at.....	\$3 50 a day.....30 days .	105 00
1...do.....	3 00..do	90 00
2 assistants	2 00..do	120 00
1 foreman.....	1 50..do	45 00
1 assistant foreman	1 25..do	37 50
1 cook.....	1 25..do	37 50
1 steward	1 00..do	30 00
4 leadsmen.....	90..do	108 00
4 chainmen	80..do	96 00
28 boatmen, (4 crews of 7 each)..<	70..do	588 00
Subsistence of party.....		650 00
Amount a month		1,907 00
Amount for six months.....		11,442 00
Transportation of party up and down.....		800 00
Tents and camp equipage.....		600 00
Purchase of two barges, \$275 each		550 00
Total for each shore party.....		13,392 00
Three parties in the field		40,176 00
For an astronomical party:		
1 assistant at.....	\$3 00 a day (6 m'hs) 183 days.	549 00
1 time keeper.....	2 00..do	366 00
1 cook.....	1 00..do	183 00
7 men, (a boat's crew, each).....	70..do	896 70
Subsistence		915 00
Transportation and camp equipage		500 00
Total for astronomical party.....		3,509 70
Allowances to five officers of topographical engineers, quarters, transportation, &c.....		2,200 00
Pay of 1 computer and draughtsman at \$4 a day.....		1,460 00
Office rent and fuel for office.....		600 00
Surveying steamer in ordinary, six months.....		2,500 00
4 assistants, (1 to each party,) in office during winter, at \$3 50..		2,562 00
5 assistants, including 1 for astronomical party, in office at \$3...		2,745 00
1 assistant at \$2 50, and 8 assistants at \$2.....		3,385 00
Repairs of steamer Surveyor, after the completion of the new steamer, new deck beams of iron, new decks of best southern pine, and rebuilding of upper works.....		10,000 00

ESTIMATE—Continued.

Contingencies, viz : transportation of boats ; smith's work ; purchase of new anchors ; lumber ; timber, spikes and nails for stations ; buoy anchors and rope ; paints, oils, leather, and other ship chandlery ; stationery, drawing paper, &c	\$4,000 00
Amount requisite for completing the new iron steamer for the survey, in addition to the amount already appropriated	50,000 00
Total amount of estimate for the expenses of the survey of the north and northwestern lakes for the year ending June 30, 1856	133,512 83

All of which is respectfully submitted by your most obedient servant,

J. N. MACOMB,

Captain Topographical Engineers.

To Col. J. J. ABERT,

Commanding Corps of Topographical Engineers,

United States Army, Washington City, D. C.

APPENDIX B.

OSWEGO, *September 1, 1854.*

SIR: I have the honor to submit the annual report required by regulation of the progress of the several works committed to my care on Lake Champlain, Lake Ontario, and Lake Erie.

Burlington, Vermont.

The work at this place is a breakwater, 1,069 feet in length, and 35 feet in breadth on top, built of crib-work, and ballasted with stone. It is placed immediately in front of the wharves of the town in 30 feet water, and affords very good protection. Last year 100 feet in length was added to the north end of the breakwater, but the appropriation was exhausted before the crib was completed. There is more than timber enough on hand to finish this crib. I repeat my recommendation, that 200 additional feet be added to the north end ; this will bring it under cover of a point of land to the north, and afford better shelter from northwesterly gales. An estimate for that purpose is herewith submitted. I had no means whatever for making a resurvey. Burlington is in the collection district of Vermont, which embraces the whole State. The port of entry is Alburgh. There is one light-house in this district, which is designated as No. 91, situated on Juniper island, Lake Champlain, south side of the entrance to Burlington harbor. The nearest fort is Fort Montgomery, at House Point, fifty miles from Burlington.

The duties collected in the fiscal year ending June 30,

1854.....	\$67,975 00
Value of foreign merchandise exported.....	1,066,000 00
Value of domestic produce exported.....	310,101 00
Value of merchandise imported and entered for warehousing and transportation to other districts.....	502,665 00
Amount of hospital money collected.....	277 00
American tonnage entered.....	21,592 tons.
American tonnage cleared.....	20,499 "
Foreign tonnage entered.....	12,194 "
Foreign tonnage cleared.....	9,589 "
Tonnage on outstanding enrolment for steam vessels....	4,527 "
Tonnage on outstanding enrolment for sail vessels.....	2,847 "

It is supposed that when the treaty of reciprocity between the United States and the British provinces goes into effect the commerce of this district will quadruple within eighteen months. The whole commerce and navigation of Lake Champlain would be directly or indirectly benefitted by the completion of the breakwater at Burlington.

ESTIMATE FOR COMPLETING THE WORK OF LAST YEAR.

1 foreman, 32 days, at \$2 50 per day.....	\$80 00
3 carpenters, 32 days, at \$1 50 per day.....	444 00
2 laborers, 32 days, at \$1 per day.....	64 00
	588 00

ESTIMATE FOR ADDING TWO HUNDRED FEET TO PRESENT BREAKWATER.

232	stick round hemlock timber, 50 feet long and 12 in. small end.	
54	do do 48 do do	
54	do do 46 do do	
54	do do 44 do do	
186	do do 40 do do	
28	do do 38 do do	
28	do do 36 do do	
360	do do 34 do do	
428	do white pine, 35 do do	
4,000	running feet white pine, to square 18 inches in length, of 35 feet and over.	
350	pieces white oak plank, 11 feet long, 3 inches thick, and 8 inches wide.	
9,000	trenails, to square 2½ inches, and 2 feet long.	
1,600	perch of stone.	
1,000	pounds 8-inch wrought spikes.	
4,372	running feet hemlock, at 8 cents.....	\$3,445 76
14,980	do round pine, at 10 cents.....	1,498 00
9,000	cubic feet 18-inch square pine, at 15 cents.....	1,350 00
7,700	feet white oak plank, at \$25.....	192 50

9,000 trenails, at 7 cents.....	\$630 00
16,000 perch of stone, at 40 cents.....	6,400 00
1 boat-auger, rope, &c.....	200 00
1 foreman, 120 days, at \$2 50.....	300 00
10 carpenters, do 1 50.....	1,800 00
14 laborers, do 1 00.....	1,680 00
Services of superintendent.....	1,460 00
Services of agent 120 days, at \$3.....	360 00
1,000 lbs. wrought spikes, at \$9.....	90 00
	19,406 26

Survey of the harbor of Ogdensburg.

This survey could not be accomplished for the want of assistance.

Oswego.

In the work done at this place I embody the report to me of the local agent, M. P. Hatch, esq.

During the remainder of the season after the 1st of September, 1853, the whole of the work there reported as unfinished (from B to C, on the accompanying sketch) was completed. Some progress was made in the removal of the large stone under water in the breach of 1852, and 90 feet in length was added to the west end of the temporary work constructed by Lieutenant Franklin, to prevent a further breach in the shattered and unfinished masonry, and the whole of the temporary work was raised and strengthened.

Operations were commenced this year about the first of May. All that portion of the pier pier-head east of the point marked D on sketch has been removed to a depth under water at which sound timber was found, and the reconstruction has so far progressed that more than one-half has been built to the full height, and the remainder is more than two-thirds done. The whole is filled with stone ballast so far as built, and about 100 cords of stone are quarried and piled on the shore, ready for boating.

That portion of the pier and pier-head east of the point marked E on the sketch has been designated as the light-house pier, and the expense of removing old work and reconstruction is charged to the light-house appropriation.

This work is located in the collection district of Oswego, New York, immediately west of the Oswego river, and covering its mouth. There is a light-house on the east end of the pier, and on the east side of the river, nearly opposite the light-house, and about four hundred yards distant, Fort Ontario is situated.

During the fiscal year ending June 30, 1854, the imports

amounted to	\$3,306,913 00
The exports amounted to.....	2,970,084 00
Total foreign commerce.....	6,276,997 00

The duty collected by American vessels was.....\$56,618 19
 The duty collected by foreign vessels was..... 99,757 04

Amount of duties collected.....156,375 23
 Amount of duties secured on foreign goods passing through..698,170 65

Total amount of duties collected and secured..854,545 88

The tonnage entered and cleared (American).....1,217,822 tons.
 The tonnage entered and cleared (foreign)..... 241,962 “

Total amount of tonnage.....1,459,784 “

There can be no information procured at the custom-house in relation to the value of the coastwise or domestic commerce.

The State collector of canal tolls at Oswego on the 1st of January last estimated the property passing through the canal at \$34,500,000 for the year, but the estimates were based upon very uncertain data.

From the best information I can obtain, I believe it safe to estimate the whole amount of the commerce for the last fiscal year at not less than \$37,000,000, all of which will be directly benefitted by the completion of this work; and all the commerce passing to and from the ports on this lake must also be indirectly benefitted.

The want of increased harbor room at this place becomes more and more apparent every year. The commerce of this port—that of late years—has increased with great rapidity, and to which a great additional impulse must unquestionably be given by the “reciprocity” treaty lately concluded with Great Britain, must inevitably suffer very serious detriment unless immediate steps be taken to increase the size of the harbor.

For the completion of the works at this place upon the present plan, I copy the estimates submitted last year, with some variation, in consequence of the increased price of labor and materials, as follows:

Estimate for removing the unfinished masonry of the superstructure that was shattered by the storm of 1842, (part under water,) and rebuilding the same with timber and stone, as follows:

Removing old work.

20 common laborers 60 days, 1,200 days, at \$1 12½..... \$1,350 00
 2 overseers 60 days, 120 days, at \$2 240 00
 Blacksmiths making and repairing tools and iron..... 250 00
 Ship-chandler, for blocks, cordage, &c..... 250 00

Total for removing old work..... 2,090 00

Rebuilding.

6,750 feet, cubic measure, pine timber, at 15 cts. \$1,012 50
 750 feet, cubic measure, oak timber, at 25 cts. 187 50
 10,500 feet, board measure, pine plank, at \$15.. 157 50

6,000 feet, board measure, oak plank, at \$30...	\$180 00
2,500 pounds in round iron, at 5 cts.....	125 00
2,000 pounds in. spike, at 6 cts.....	120 00
400 white oak trenails, at 3 cts.....	12 00
1,200 day's labor, at \$1 12½.....	1,350 00
600 day's carpenters, at \$1 75.....	1,050 00
Blacksmith's work.....	125 00
60 days each of overseer and master car- penter, at \$2.....	240 00

Total for rebuilding \$4,559 50

For rebuilding top of counter-forts inside of the pier,
325 feet long, 30 feet wide, and 5 feet high:

11,625 feet, cubic measure, pine timber, at \$15...	1,743 75
28,250 feet, board measure, pine timber, at \$15.	4,423 75
1,500 pounds round bolt iron, at 5 cents.....	75 00
1,000 pounds spike, at 6 cents.....	60 00
400 white oak trenails, at 3 cents.....	12 00
12 mooring-posts, at \$10.....	120 00
300 day's labor, at \$1 12½.....	337 50
120 day's carpenters, at \$1 75.....	210 00
30 days each of overseer and master car- penter at \$2.....	120 00
Blacksmith's work.....	62 50

Total for rebuilding counter-forts 3,164 50

For removing large stone under water, that has
been washed from the top of the pier, one crab-
scow, with captain and eight men, five months:

8 men 130 days, (1,040 days,) at \$1 12½.....	1,170 00
Captain of scow, 130 days, at \$2.....	260 00
Chains, grapplings, ropes, &c.....	500 00
Blacksmith work and repairing.....	150 00

Total for removing stone under water 2,080 00

For rebuilding pier in the breach caused by the
storm of 1842:

12,540 feet, cubic measure, pine timber, at 15 cts.	1,881 00
950 feet, cubic measure, oak timber, at 25 cts.	237 50
17,100 feet, board measure, pine plank, at \$15..	256 50
7,600 feet, board measure plank, at \$30.....	228 00
3,500 pounds in. round iron, at 5 cents.....	175 00
3,000 pounds spike, at 6 cents.....	180 00
700 white oak trenails, at 3 cents.....	21 00
4 mooring-posts, at \$10.....	40 00
1,800 day's labor, at \$1 12½.....	2,025 00
900 day's carpenter, at \$1 75.....	1,575 00
2 overseers, 60 days each, at \$2.....	240 00
1 master carpenter 60 days, at \$2.....	120 00
Blacksmith work.....	100 00

Total for rebuilding in breach 7,079 00

There will also be necessary for rent of wharves and stone quarry—the land heretofore occupied having been sold by the State of New York—the further sum of.....	\$2,000 00
Compensation of agent one year.....	1,440 00
	22,413 00
Contingencies 10 per cent.....	2,241 30
Total for completing work.....	24,654 30

Which sum may, in my opinion, be judiciously expended in one year.

The above is exclusive of a considerable amount of dredging that will be necessary.

Sodus Bay, Cayuga Co., New York.

This beautiful sheet of water lies fifteen miles west of Oswego; it is one and a half miles in length, north and south, and an average width of one thousand feet; the water is very deep, 30 and 40 feet; the shores are bold, and afford great facilities for wharfing. This bay was formerly separated from the lake by a gravelly beach, with an outlet not exceeding one hundred and fifty feet, with one and a half feet of water on the bar.

It was surveyed under my direction in 1845, and a plan projected for the improvement of the entrance; in 1852, an appropriation of \$10,000 was made to commence the work. In 1853, I was directed to make arrangements to begin the work, but, on visiting the place, I found the aspect of the bay entirely changed since the survey made in 1845, upon which the plan for improving the entrance was based. The bay was entirely open to the lake; the strip of gravel beach, which had formerly separated them, had disappeared, partly washed away by a succession of violent storms, and partly submerged by the high water of the lake. The lake was, at that time, 3.75 feet above its low water mark. Under these circumstances, I recommended a resurvey before commencing any work for its improvement, and a revision of the plan. This was approved by the Board of Engineers, and the survey was made in August, 1853, upon which a new plan was made. The works now proposed for the navigable entrance to the harbor are in effect the same as those proposed in 1845. The changes proposed are mainly changes of detail, such as were necessarily suggested by the alterations which had taken place in the form of the shore since 1845. The propriety of defending the beach was admitted by the Board of Engineers, and an estimate for it was inserted in the general annual estimate. It was afterwards suggested to substitute a rip-rapping or a deposit of shingle, instead of a row of piles as proposed in the general estimate; and this substitution the board approved, because of its greater economy and durability. I am very happy to say that this portion of the plan has succeeded, thus far, admirably. Light westerly and northwesterly winds raised the smaller shingle or gravel, and fills the interstices of the rip-rap work, forms a solid mass, and the beach ac-

cumulates in front of it. It has already accumulated six hundred feet, in length, which is more than one-third the distance from the west side of the bay to the position of the piers, varying from fifty-seven, the greatest, to ten feet, the smallest in width, and three feet above the level of the lake.

When the season for operations approached this year, it was considered doubtful whether it would be judicious to commence this work with so small an amount as the balance of the appropriation, about \$4,000, although there was a large amount of material on hand, particularly after a decision of the Hon. Secretary of War, on approving the plan; but the president (of the L. O. A. and New York Railroad Company, which road has a terminus on the bay,) pledged himself to raise the difference between the balance on hand and the estimate approved by the Board of Engineers, and I was ordered to go on with the work. The rip-rap was commenced on the west side of the bay on the 16th June, and was continued until it reached the channel, or the position of the west pier. On the 3d of August the first crib was placed; since that time, seven cribs have been placed on the west pier; the first three cribs are raised to the full height; it is contemplated to place one more crib, and to finish the whole before the working season closes. The rip-rap is finished between the west side of the bay and the pier, and the accumulation of shingle has been very rapid; a beach has formed from the west side 600 feet in length, varying from 57 feet to 10 feet in width, and 3 feet above the surface of the lake.

The dredge-boat was set to work here early in August, but worked to great disadvantage because of the shoalness of the water, in fact, the scows belonging to the dredge could not be used at all, as they drew too much water. I was compelled to send up a scow belonging to the work at Oswego. The citizens of the vicinity manifested a great interest in the operations, and numbers volunteered to aid the dredge, and by means of road-scrapers, hoes, &c., &c., deepened the water, so that the dredge could work to more advantage. It was a tedious, slow operation, but by great diligence and perseverance on the part of Captain Malcolm, the commander of the dredge, a channel of six feet in depth has been cut through to the lake. This bay is in the collection district of Oswego, the nearest light-house is at Oswego, and the nearest fort is at Oswego. Heretofore, there has been no commerce at this bay, owing to the peculiar formation of a gravel bar in front of it; it was inaccessible, but, hereafter, when the railroad, now being constructed between this bay, the city of Auburn and New York, is completed, and a safe and deep entrance made, from its decided advantages of great depth of water, space, and perfect security against storms from any quarter, I think it is destined to become a place of great importance. This harbor, when completed, will be of great value to the whole commerce of the lake. I submit the following estimate for its completion, which is the same approved by the Board of Engineers.

*Estimate for building piers at the mouth of Sodus Bay, Cayuga county,
New York.*

East pier, 1,050 feet long, 20 wide—	
28 side piers, 31 feet long, 868 feet, at 4 cents.....	\$34 72
14 centre stringers, 30 feet long, 420 feet, at 4 cents...	16 80
42 ties, 20 feet long, 840 feet, at 4 cents.....	33 60
9 bottom pieces, 30 feet long, 270 feet, at 4 cents.....	10 80
730 lbs. 1½-inch iron bolts, 3 feet long, at 5 cents.....	36 50
50 cords of stone, at \$2 50.....	125 00
Carpenters and labor.....	45 00

Cost of crib, 30 feet in length.....	302 42
35 cribs, at \$302 42.....	10,584 70
52,500 feet, board measure, 3-inch pine plank, at \$10..	525 00
1,530 lbs. 6-inch spikes, at 5 cents.....	76 50
	11,186 20

Rip-rap from south end of east pier to the point on the east side of bay, 1,560 feet in length, 218 cords of stone, at \$2 50.....	545 00
	11,731 20

West pier, 1,300 feet long and 20 feet wide—	
43 cribs, at \$302 42.....	13,004 06
6,500 feet, board measure, 3-inch pine plank, at \$10...	650 00
1,930 lbs. 6-inch spikes, at 5 cents.....	96 50
	13,750 56

Rip-rap from south end of west pier to the shore, 1,260 feet in length, 160 cords of stone, at \$2 50.....	400 00
	14,150 56

RECAPITULATION.

Cost of west pier and rip-rap	14,150 56
Cost of east pier and rip-rap	11,731 20
	25,881 76
Contingencies, 10 per cent.....	2,588 17
	28,469 93

Sodus Bay, Wayne county, New York.

Nothing has been done at this work this season, the appropriation having been exhausted last year, and it is in a very decayed condition,

except that portion of the east channel and the east harbor pier which was rebuilt last season.

The remainder of the east harbor pier, which is down below the surface of the water, requires to be rebuilt, and the entire west pier, from the beacon light to the beach, is so much decayed that it must be rebuilt.

This bay is situated in the collection district of Oswego. There is a light-house on the west bank at the entrance to the bay, and a small beacon light at the north end of the west pier. The nearest fort is Fort Ontario at Oswego.

The commerce of this bay is at present not of much consequence, owing chiefly to the want of a communication with the interior, but the Sodus Point and Southern Railroad Company, regularly organized in April, 1852, under the general railroad law of the State of New York, propose to construct a road, on the broad guage, from Great Sodus Bay on Lake Ontario, by the shortest and most direct route practicable, to a connexion through a portion of the Canandaigua and Elmira railroad with the New York and Erie road, at the village of Elmira; only about thirty-five miles of road remains to be built to effect this connexion.

This road is already begun, and when completed will no doubt attract a good proportion of trade to this bay, for which it is so peculiarly well adapted to accommodate, as to place, depth of water, facilities for wharfing, and perfect security in storms; as a harbor of refuge it is of great importance to the commerce of the lake.

The number of arrivals during the year ending June 30, 1854, was—	
Coastwise	4,529 tons.
Clearances coastwise	4,529 tons.
Foreign arrivals	340 tons.
Value.....	\$956 33
Duties collected	202 86

I submit the following estimate for this work:

East harbor pier.

Hemlock, 240 pieces, 12 by 12 by 30 feet, at 12½ cents..	\$900 00
Do. 275 do. do. 14 do. 12½ do...	481 25
Oak, 130 do. do. 30 do. 25 do...	975 00
Oak, 130 do. do. 14 do. 25 do...	455 00
Iron, 700 pounds, 1½-inch, for bolts, at 5 cents.....	350 00
Iron, 4,000 pounds, 6-inch spikes, at 7 cents.....	280 00
Plank, 34,000 feet 3-inch plank, at 15 cents.....	510 00
Labor, superintendence, &c.....	3,048 75
	7,000 00

West channel pier, from beacon light to the beach.

Hemlock, 480 pieces, 12 by 12, 30 feet, at 12½ cents	\$1,800 00
Do. 640 do. do. 18 do. 12½ do.	1,440 00
Oak, 220 do. 12 by 12 by 30 feet, at 25 cents. . . .	1,650 00
Oak, 220 do. do. 18 do.	990 00
Iron, 15,000 pounds, ½-inch bolts, at 5 cents.	750 00
Iron, 6,000 6-inch spikes, at 7 cents.	420 00
Plank, 65,000 feet, 3-inch pine, at 15 cents.	975 00
Labor, superintendence, &c.	4,015 00
	12,040 00
East harbor pier	7,000 00
	19,040 00
Contingencies, 10 per cent.	1,904 00
	20,944 00

Genesee river.

The west pier at this harbor, 1,943 feet in length, was entirely rebuilt last season. The east pier, 2,034 feet in length, is decayed to the water's edge, and several breaches in it below the surface of the water. In moderate gales of wind it is entirely submerged, which renders the approach of vessels to the entrance of the pier very dangerous. It requires to be entirely rebuilt. This harbor is in the collection district of Genesee; port of entry Rochester. The amount of duties collected in the last fiscal year was \$24,378 83. There is a light-house on the high ground, just west of the piers, and a small beacon light at the end of the west pier. The nearest fort is at Oswego. There is considerable trade coastwise and with the Canadas from the port, and from its peculiar position, (being about midway of the lake,) the commerce of the lake is interested in this harbor being preserved.

ESTIMATE.

Pine timber, 12 by 12.	\$6,600 00
Oak timber, 12 by 12.	4,730 00
Pine plank, 3-inch.	2,000 00
Stone ballast.	800 00
Wrought iron spikes.	400 00
Iron for bolts.	2,000 00
Labor and superintendence.	5,000 00
	21,530 00
Contingencies, 10 per cent.	2,153 00
	23,683 00

Oak Orchard creek.

The west pier of this harbor is 844 feet in length and 20 feet wide; 290 feet of this was built last season and is in good condition; 150 feet in length was repaired—the remaining portion is much decayed and requires repairs. The east pier is 734 feet long, 20 feet wide; is in a very decayed condition and requires to be re-built. It was the original intention to carry these piers out to a depth of 18 feet, but the board of engineers having decided upon 15 feet as the maximum depth, the estimate will be for that depth. This harbor is in the Niagara collection district. Charlotte is the nearest port of entry; no duties collected. The nearest light-house is at Genesee river, and the nearest fort is Fort Niagara. At present there is no regular trade with this harbor, but it is within two miles of the Erie canal, and a survey has been made for the purpose of a railroad to connect with the interior; being midway between Genesee river and Niagara river, it is important to the commerce of the lake as a harbor of refuge.

ESTIMATE.

34 side pieces, 12 by 12, 30 feet long, 1,020, at 13 cents..	\$132 60
5 bottom do 12 by 12, 28 do do 140, at 13.....	18 20
15 do do 12 by 12, 26 do do 390, at 13.....	50 70
3 do do 12 by 12, 20 do do 60, at 13.....	7 80
64 do do 12 by 12, 20 do do 1,280, at 13.....	166 40
4 do do 12 by 12, 30 do do 120, at 13.....	15 60
53 cords of stone, at \$3 25.....	172 25
1,305 feet board, measuring 3 inches, pine plank, 20 feet long, at \$11.....	14 35
60 wrought spikes, 6 inches, at 7 cents.....	4 20
864 pounds 1½-inch iron, at 4½ cents.....	38 88
Mechanics and laborers.....	250 00
Cost of one crib.....	870 98

WEST PIER.

20 cribs, at \$870 98.....	17,419 60
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EAST PIER.

18 cribs, at \$870 98.....	15,677 64
Repairs.....	3,743 65
	36,840 89
Contingencies, ten per cent.....	3,684 08
	40,524 97

Harbor of Buffalo.

The work at this harbor has been confined to rebuilding the protecting wall of the south pier, which was thrown down by a violent storm in 1843; 1,760 cubic yards of the ruins have been excavated and removed; 380 cubic yards of concrete and masonry have been laid for foundation; 500 cubic yards of ashlar laid in the wall; 1,000 cubic yards rubble filling behind the wall; 317 cubic yards slope wall constructed; 272 superficial yards flagging on the top of the wall; 9,000 superficial feet of ashlar dressed; 3,039 feet of flagging picked; 75 cubic yards tow-path relaid, and about 2,000 tons of stone transported from the quarry at Black Rock.

This season the whole will be completed as far inland as is necessary; but I would recommend the rebuilding of the wall about the light-house—the present wall is built of small stones and exhibits signs of yielding. I would also recommend the renewal of the tow-path to correspond in character with the wall, and for its greater security; it is now in a very dilapidated condition, having been frequently run into by vessels. I would recommend that it should be taken up to the depth of the foundation of the wall; if practicable, faced with masonry, similar to the wall filled in with concrete and paved with flagging. This, I think, would finish permanently this harbor as at present projected.

The harbor of Buffalo is in the collection district of Buffalo Creek. There is a light-house at the extremity of the south pier, and the nearest fort is Fort Porter at Black Rock. The amount of revenue collected during the fiscal year, ending 30th of June, 1854, was \$83,572.

The amount of tonnage arrived and departed during the last fiscal year was nearly 4,000,000 tons, with an anticipated increase. Placed, as this harbor is, at the terminus of the navigation of the lake, the whole commerce of the lake is interested in the present harbor being kept up, and there are pressing calls for its enlargement.

I submit the following estimate for the completion of the present plan:

Estimate for removing and rebuilding the towing-path of south pier, Buffalo harbor, New York.

The old work to be removed five feet deep, twenty feet wide and 1,420 feet in length.

The new work to be placed with ashlar (twelve inch stones) four feet high and three feet wide, with a coping, twelve inches thick, over the wall, a filling of concrete behind and a flagging ten to twelve inches thick (edges picked square) laid over the concrete.

Removing old work, 4,237 cubic yards, at 20 cents.....	\$847 40
Filling of concrete, 3,576 cubic yards, at \$2.....	7,152 00
Dressing ashlar and coping, 58,633 superficial feet, at 5 cts.	2,931 65
Picking flagging, 29,480 running measure, at 5 cents.....	1,474 00
Setting face, wall and coping, 818 cubic yards, at \$2.....	1,636 00
Setting flagging, 2,682 superficial yards, at 30 cents.....	804 60
Cement for wall and coping, 272 bbls., at \$1 50.....	408 00
Sand, 2,720 bushels, at 2 cents.....	54 40

Stones, about 1,200 tons, at \$1 25	\$1,500 00
Six stone moving posts, (in place of those broken,) at \$20.	120 00
	16,928 05
Contingencies, ten per cent.	1,692 80
Total	<u>18,620 85</u>

Estimate for removing and rebuilding about thirty-seven feet of wall in front of light-house, Buffalo harbor, New York.

Removing old work, 278 cubic yards, at 37½ cents	\$104 25
Laying foundation of concrete and masonry, 55 cubic yards, at \$2 50	137 50
Setting ashlar and coping, 120 cubic yards, at \$2	204 00
Filling rubble behind wall, 150 cubic yards, at 25 cents ..	37 50
Setting flagging on top of wall, 35 super. yards, at 30 cts.	10 50
Dressing ashlar and coping, 2,570 super. feet, at 6½ cents ..	167 05
Picking flagging, 385 feet running measure, at 5 cents	19 25
Stones, about 450 tons, at \$1 25	562 50
Tools, implements, &c.	100 00
Cement, 60 bbls., for wall, at \$1 50	90 00
Sand, 600 bushels, at 25 cents	12 00
	1,444 55
Contingencies, ten per cent.	144 45
Total	<u>1,589 00</u>

Estimate for dredging along south pier and of pier head into ten feet water.

800 cubic yards, at 25 cents	\$2,000 00
Contingencies, ten per cent.	200 00
	<u>2,200 00</u>

RECAPITULATION.

For tow-path, south pier	\$18,620 85
For re-building wall in front of light-house	1,589 00
For dredging along south pier	2,200 00
Total required	<u>22,409 85</u>

Dunkirk Harbor.

There has been no work done here this season, the plan not having been perfected by the Board of Engineers.

This, being the terminus of the great Erie railroad, must necessarily

become an important point in commerce, and, from its position on the lake, about midway between Buffalo and Erie, is very important as a place of refuge.

Dunkirk is at present in the collecting district of Buffalo Creek, N. Y. Congress at its last session created a new district, to be called the District of Dunkirk, and Dunkirk to be the port of entry; this new district has not yet been organized; no duties have been collected here. There is a light-house on the first point of land west of Dunkirk. The nearest fort is Fort Porter, at Black Rock. The amount of tonnage arriving and departing from this place is 300,000 tons annually.

The value of property received by the lake for the year ending 31st August, was \$10,000,400, and the value of merchandise brought by the Erie railroad to be shipped from this point was \$15,000,000; and the value of provisions, &c., brought to this place for local use, and for supplying the neighboring counties, was \$365,113 90; making a total of \$26,365,113 90. Thirty thousand emigrants were shipped from this point this season.

This large amount of commerce, and which is increasing annually 25 to 50 per cent., would be greatly benefitted by the completion of a harbor at this point.

Harbor of Erie, Pennsylvania.

The work done this season at this harbor was chiefly in the repairs of the south channel pier at the east end of the bay, and this has been thoroughly done as far as the angle with the land pier, and in an endeavor to check the abrasion of the west end of the island. Last year I made an experiment by placing a few watlings of hemlock brush perpendicular to the shore, with a view of intercepting the travelling beach. The effect was so far satisfactory that I was induced to continue the experiment this season, and covered the whole abraded portion with hemlock brush, secured by stakes, and partially loaded with stones. It has stood remarkably well some severe blows from the northwest, and has collected some sand, but the lake has subsided a great deal and left it exposed; but I think that this method, probably improved upon, will eventually succeed, and I think it would be the best method of accumulating the beach again and stopping the breach at present existing at the west end of the bay, which is very essential to the protection of this fine harbor. The shoal water is rapidly extending eastward, as will be seen by the survey of this season, a map of which accompanies this report. This harbor is in the collection district of Presque Isle, and the amount of duties collected during the last fiscal year was \$1,640 15. There is a light-house on the bank of the lake immediately south of the entrance of the piers, and there is a beacon light on the end of the north pier. The nearest fort is Fort Porter, on the Niagara river. The amount of tonnage of 5 steamers and 26 sailing vessels, owned here, is 9,953. The number of arrivals and departures are 1,860; and there are 12 foreign vessels which trade with this place, and hundreds of vessels seek this harbor as a refuge from storms.

It is very important to the commerce and navigation of the lake that it should be permanently kept up.

I submit an estimate for closing the breach at the west end of the bay :

800 loads of hemlock bush, at \$1.....	\$800 00
200 cords of stone, at \$8	1,600 00
Labor and superintendence	2,000 00
A new crane-scow.....	600 00
	5,000 00
Contingencies 10 per cent.,.....	500 00
	5,500 00

Respectfully submitted by your obedient servant,

W. TURNBULL,
Brevet Colonel.

Col. J. J. ABERT,
Chief Bureau Topographical Engineers.

APPENDIX C.

OFFICE OF GENERAL SUPERINTENDENT PUBLIC WORKS,
Cleveland, October 20, 1854.

COLONEL: I have the honor to submit to the Bureau of Topographical Engineers the following report of operations upon the several works within the district under my charge, for the year ending September 30, 1854.

This district extends from Conneaut, near the eastern boundary of the State of Ohio, to Monroe at the mouth of the river Raisin, and embraces nine harbors, viz: Conneaut, Ashtabula, Grand River, Cleveland, Black River, Vermillion, Huron, Sandusky Bay, and the harbor of Monroe.

For all these works appropriations were made by Congress in 1852, and I proceed to give in detail a sketch of the operations at each during the year; and also, in obedience to your instructions, to submit estimates of the funds required to place each of them in a complete state of repair.

Conneaut Harbor.

The repairs for this work were commenced early for the season—early in May—and have been chiefly directed to the rebuilding of the ruinous portion of the west pier, for a distance of 330 feet, which has been completed in the most permanent and substantial manner. This completes the repairs contemplated to the piers as far as they at present extend, 250 feet of the old work, on both piers, being found to be in a sufficiently sound condition to last for many years.

The amount of the last appropriation for this harbor was \$10,000,

of which \$9,537 79 has been expended up to September 30, when the repairs were finished, leaving in my hands the sum of \$462 21 to the credit of the work.

The whole amount of work done during the two past seasons with the money expended has been 890 feet of pier entirely rebuilt, 120 feet thoroughly repaired, a new crane-scow built, and a complete survey of the harbor made, with the soundings, a chart of which has been transmitted to the Topographical Bureau.

An estimate was submitted with my last annual report for the extension of the east pier 275 and the west pier 325 feet, on parallel lines from the present pier, at a cost of \$19,855, as recommended by Mr. J. A. Potter, the local agent of the work. The Board of Engineers for Lake Harbors and Western Rivers, in their report of the 10th September, 1843, recommended that the length of the piers should be limited to the inner line of the 12 feet water, and submitted an estimate *pro rata* from that of the agent, (which was for 600 feet,) restricting the length of both piers to 300 feet at a cost of \$9,927 50.

The local agent has renewed that estimate in his report of this year, with a slight addition to the prices before estimated, in consequence of the enhanced prices of both materials and labor over those of last year. The estimate, a copy of which is hereunto attached, amounts to \$23,049 62.

The pro rata estimate for 300 feet as recommended by the

Board is.....	\$11,524 81
Add compensation of agent for one year.....	1,460 00
Total estimates for Conneaut harbor.....	<u>12,984 81</u>

The harbor of Conneaut, which is within the collection district of Cuyahoga, has been selected as the eastern terminus for a railroad, traversing the eastern portion of the State of Ohio, and of western Pennsylvania, connecting directly with the city of Pittsburgh, passing through the intermediate coal region. A company has purchased a site at this harbor, upon which they are about erecting smelting works of an extended character, for the purpose of working the iron ore of Lake Superior. It is a port of growing importance, not only as a harbor of refuge, but as an outlet for the agricultural and mineral products of the rich and fertile country of which it is the focus.

Harbor of Ashtabula.

The last thing done at this place, last season, was an attempt to secure the end of the west pier against further damage. The outer end of this pier, for the distance of about 90 feet, had been swept away during a gale in 1852, to a depth of from five to nine feet below the surface of the water. This was done in the best manner possible at the time, but the integrity of the old work having been once destroyed, it was to be totally unable to withstand the force of the autumnal gales; and about 60 feet more of this pier was swept away to from five to seven feet below the surface.

The repair of this pier has occupied the present season. Cribbs have

been sunk upon and bolted to the old work, until level with the surface of the water, upon which the pier has been rebuilt with long and heavy timber, bolted with iron—care being taken in all cases to break joints over the cribs, and, indeed all the way up, so as to make the work as firm and homogeneous as possible. This was done for the distance of 300 feet, 190 feet (the outer angle) being 18 feet wide, and the rest of the pier, running to the beach, 13 feet.

In his report to me, the agent of this harbor says: "This much has been attended with difficulty, in consequence of the indifferent construction of the old works. It is at all times difficult to get good foundations for new work upon old, at that depth, but it has been particularly so at this point, owing to the utter want of system in sinking the former work. We seldom find two of the cribs lying in the same direction; they are built in the most temporary manner, and in many cases are not bolted—generally of round timber with the cross ties dropped into jambs, chopped into the crib logs, not even fastened by wooden pins. It is not an unusual thing, after having labored for days to clear a bottom for the new crib to rest upon, to find in a few minutes a whole course of the old timber floating up, making it necessary to bolt the old work (in deep water) before sinking the new crib upon it."

In the truthfulness of these remarks I fully concur. No small proportion of the expense of these repairs is absorbed in preparing the foundation upon the old work sufficiently stable and reliable to warrant the construction upon it of that which is to rise above the water. The timbers of the old work were for the most part too small; the ties, in many instances not exceeding five inches in thickness, were insufficiently fastened, and in many cases, are now only held together by the weight of the stone with which they were originally filled.

The last appropriation for the harbor was \$10,000, of which \$9,346 15 had been expended on the 30th of September, leaving in my hands a balance to the credit of the work of \$653 85. The amount of work completed, as exhibited on the accompanying sketch, is 670 feet of pier; 490 of which has been rebuilt from below the surface of the water, in most cases from five to eight feet, and 200 feet thoroughly repaired.

An estimate was submitted last year for continuing the improvement of this harbor by an extension of both piers into the lake. The same estimate is again submitted, with an increased price for materials and with an additional item for continuing the repairs of the old work.

For continuing the improvement of Ashtabula harbor as

per estimate hereto attached.....	\$24,516 40
Completing the repairs of the old piers.....	4,500 00
Contingencies, 10 per cent.....	2,901 64
	31,918 04

The harbor of Ashtabula is situated within the collection district of Cuyahoga, 60 miles east of Cleveland, and 30 miles of Grand River. It is an important town of the northeastern portion of the State; surrounded by a dense populated district, and having a large surplus of products to export, its business and commerce is rapidly increasing. Railroads are now in progress connecting the port directly with the

Ohio River, passing through some of the richest portions of the country, the greater portion of whose productions will seek an outlet to market from the harbor. The benefits, therefore, to the agricultural and, in fact, every interest of the country, from the completion and maintenance of the harbor, cannot but be of the greatest importance.

Harbor of Grand River.

The operations at this harbor, for the past season, have been directed chiefly to the repair of the dilapidated portion of the west pier, commencing at the point where it was left last year (as indicated on the accompanying sketch) and continuing the rebuilding inland to the point, also designated on the chart, where it has been well secured.

The whole amount of work done with the present appropriation, during the two past seasons, is as follows:

One thousand two hundred and fifty feet rebuilt, 280 of it from three to seven feet below the surface of the water, and the rest from the water line; 290 feet thoroughly repaired, including the outer end of the angle of the west pier, which has been refilled with stone. A complete and minute survey has also been made, and the chart transmitted to the Topographical Bureau.

The amount of the appropriation was \$10,000, the amount expended up to the 30th September, \$9,882 14, leaving \$177 86 in my hands, to the credit of the work.

With my last annual report I transmitted an estimate of the local agent for this harbor, providing for "the extension of the east pier 500 feet in continuation of the present line of that pier; and the extension of the west pier from a point about 160 feet from where that pier begins to 'flare,' outward for 400 feet, on a line parallel to the east pier, and for pier work to connect the head of these 400 feet with the head of the present west pier." The estimate which amounted to \$35,277 88, was not adopted by the Board of Engineers, but was modified, the contemplated extension being confined by them to the lengthening of the east pier 320 feet, to bring it out into the lake as far as the west pier, and to the reconstructing of 60 feet of the pier on which the beacon is placed, equal to 380 feet of pier, at a *pro rata* cost of \$11,556 54.

From the recommendation of the Board, as to the extent of the contemplated improvement, I do not feel authorized to depart, and therefore will but remark, that an estimate for the same extent of improvement as was contemplated last year has been submitted this season by the same agent, but with an increase as to the cost, in consequence of the increased price of materials, amounting to \$41,346 82.

The *pro rata* estimate of the Board, founded upon the estimate of last year, including the compensation of an agent for one year, was \$13,016 54. The *pro rata* estimate founded upon the same estimate submitted the present year, at the increased prices, will therefore amount, including the compensation of an agent one year, to \$15,004 56.

This harbor is 30 miles east of Cleveland and is within the collection district of Cuyahoga.

In his report to the general superintendent, in reference to this harbor, the agent uses the following language, which I quote as expressing fully my own views as to the importance of this port to the navigable interests of the lake. "The harbor of Grand river has, from the first commencement of the system of lake harbor improvements, been ranked as the very first upon the lake, owing to its great width of entrance, depth, and general capacity. Its trade and commerce are rapidly increasing, and it has been selected as the termination of a railroad traversing central Ohio to the city of Cincinnati, which road is now in progress of construction, the trade of which will at once be of the greatest importance. The most sanguine expectations have ever been more than realized in the lake region, where railroads have been brought to any point where facilities for shipping the products of the country could be obtained. As to the question 'of what amount of commerce would be benefitted by the completion of this harbor,' I do not know the value of the commerce of the lakes; the benefits cannot be estimated by dollars. The safety of the life of the mariner, the harbor of refuge for our lake craft during the violent gales of the autumnal months—these and numerous other considerations must be taken into the account, extending through every branch of trade and traffic. It is no unusual thing for this port to afford shelter, during our fall gales, to from 20 to 50 vessels of all classes, from the large steamer to the small coaster. The limited sea-room and the suddenness of the gales upon the lakes make every additional harbor of importance to all."

Harbor of Cleveland.

At Cleveland active operations were deferred until late in the season, waiting the decision of the Board of Engineers upon the plan for the construction of the west pier. The interval was occupied by a small force in counterhewing the timber which had been delivered under contracts made the preceding season.

The plan recommended by the Board, and approved by the Secretary of War, for continuing the improvement of this harbor, is to construct a new pier which shall occupy a line on the natural bottom of the lake, outside of the present dilapidated structure, and at the foot of the inclined plane which had been artificially formed by depositing large quantities of loose stone along the outer or lake side of the old pier, with the intention of securing the work against the destructive action of the waves. This plan was adopted by the Board to avoid the effects produced by this inclined plane, to which, beyond doubt, the destruction of this pier was mainly owing, and also to secure "the advantage of presenting a vertical front to the sea, and of annulling its force more effectually than by the old system of rip-rapping." Respecting this now exploded system, the Board, in its report upon this work, uses the following language: "The Board need not, at this late day, declare the opinion that this course of proceeding, so popular in the early history of the lake harbors, and so specious, was the very one, of all others, most likely to bring about the result it was designed to avert. An inclined profile of the surface of a work exposed to the batter of heavy seas, when a vertical face can easily be formed, meets at pre-

sent but few advocates among hydraulic engineers. This practice of rip-rapping was most emphatically condemned by the bureau in the annual report of 1839, soon after taking charge of the harbor of improvements, and it was thenceforth abandoned."

The state of the western pier of this harbor is a striking corroboration of the truth of these remarks. No further extension of either pier is contemplated in the project of the Board.

The plan of improvement adopted by the Board will create the necessity of either removing the old pier altogether, and thus widening the harbor by the distance between the inner line of the old and that of the new pier, or of so building up the old pier as to form an interior face to the west side of the harbor at its present width, as well as that of a superstructure for connecting the two piers by planking, and thus forming them into one.

There are two objections to the first alternative. First, the great expense of removing, at a great depth, the large body of stone contained not only in such of the cribs as remain intact under water, but also the masses which, having been set free by the destruction of the pier above water, have been washed out into the harbor and now form a sort of rip-rapping to the inner face of the pier, similar to that which had been placed outside of it; and secondly, the increased width which, by this removal, would be given to the harbor *at its mouth*, by which it would be rendered less secure as a harbor of refuge against the rolling in of the sea in heavy gales from the northwest, north, and northeast. This increase of width, too, by deadening, to no small extent, the force of the river current, which is a powerful auxiliary in keeping open the channel, might hazard the maintenance of the depth of water at present found between the piers, if it did not cause, or at least facilitate, the formation of a bar off the mouth of the harbor. It is true that the increased width thus given to the harbor at its mouth would afford additional facility to its entrance from the lake during heavy gales; but as it is now sufficiently wide for that purpose, and affords as much, if not more, room between the present pier than is to be found at any point above, where vessels resort for the discharge and reception of their cargoes, it is not conceived that the doubtful advantages to be gained by the removal of the old pier would at all warrant the great expense or the risk that would thereby be incurred of diminishing the depth of water at the entrance.

The repair, therefore, of the old pier is deemed preferable; and an estimate is accordingly submitted for facing up a portion of it, rebuilding other portions where this cannot be done, and for connecting both by a substantial bridge or planking—thus forming a pier with a width of (125 feet from its head) 66 feet, diminishing, on the one hand, at the outer end, and on the other at the shore, to 50 feet.

The substitution of cribwork, in the removal of the old work, for piling, as suggested by the Board, is believed to be necessary, on account of the great difficulty to be apprehended in driving the piles along the inner face of the work. The stone which originally filled the old work above the water, and in some cases to a depth of six or eight feet below the surface, have, by the decay and destruction of the cribs, for the most part, been deposited inside the work and have become

mixed with sand; leaving the whole inner face of the pier, along that portion which still remains, lined with a rip-rapping, talus, or pavement, which is many feet thick and as hard and compact as a Macadamized road. It is almost impossible to penetrate this mass with even a shod pile, and owing to the size of a great many of the stones forming the mass, the preservation of anything like a regular alignment for the inner face of the work would be next to impracticable.

Enough of the old work remains below the water surface upon which to build the new cribs in a manner sufficiently secure for the purpose they are intended to subserve, as they will be backed and strengthened by the new pier outside of them, and with which they will be connected by the superstructure.

The estimate of the Board for the construction of the new pier, is \$19,910; in addition to which I submit an estimate for the renewal of the old work, and for connecting them together in the manner proposed, of \$19,565 63.

In a report to the bureau of March 2, 1854, I stated that the outer end of the east pier, which is constructed of cut stone laid upon the old wooden structure under water, had been almost entirely demolished by a large steamer coming in contact with it in a heavy storm, whilst endeavoring to make the entrance to the harbor, and that the whole of this part of the work would have to be taken up and rebuilt. The portion of the pier which is damaged by this and a subsequent concussion with another steamer, is 66 feet in length by 16 feet in width. It is so badly damaged that it would be necessary to take down the whole of it and to rebuild it from the foundation. I submit an estimate of the workmanship and labor only, there being, as is believed, an abundance of stone block remaining on hand to answer the demand.

An estimate is also submitted for replacing the wooden "platform" in front of the beacon on the east pier, with a structure of stone to correspond with that of the rest of the pier. This platform is described in a report to the bureau of August 11, 1853, and is designated on the sketch of the harbor accompanying this report.

The beacon light on the end of the pier is a cast-iron structure, placed upon a foundation of cut stone, 14 feet square, which is surrounded by a wooden crib 28 feet by 30, filled with stone. It is proposed to remove this wooden crib and to replace it with stone, connecting it with the "platform," as to form a pier-head of masonry 41 feet wide by 90 feet in length. The wooden crib surrounding the beacon is in a state of decay and should be made as solid as possible, so as to protect the foundation of the beacon, which, although well built, is by itself entirely too small to resist the shock of the sea in northeast gales. The estimate of this portion of the work is but \$3,739 50, and is necessary to a complete finish of the pier-head. The whole estimate for this work is, therefore, as follows:

Estimate for Cleveland harbor.

For the construction of the new western pier, as per estimate of the Board of Engineers.....	\$19,910 00
For rebuilding and repairing the old western pier and connect it with the new pier, as per detailed estimate attached	19,565 63
Total for the west pier.....	<u>39,475 63</u>

East pier.

For removing old stone work for 66 feet on the outer end of the east pier, destroyed by a steamboat, and rebuilding it, (labor only)	6,877 20
For tearing up the "wooden platform" in front of the beacon, and replacing it with a structure of masonry to correspond with the rest of the pier and form a solid pier-head	15,152 50
For tearing away the wooden crib surrounding the beacon to replace the same with a structure of masonry connecting it with the pier-head proposed to be rebuilt as above	4,113 45
Total for east pier.....	<u>26,143 15</u>

RECAPITULATION.

West pier.....	39,475 63
East pier.....	26,143 15
	<u>65,618 78</u>
Deduct, being amount of appropriation on hand and available for west pier.....	25,000 00
Amount required to place the harbor in a complete state of repair.....	<u>40,618 78</u>

The value and importance of the harbor of Cleveland to the navigation of the lakes is too well known to require at this day any labored description. The terminus of the Ohio canal, the concentrating focus for railroads from New York, Buffalo, Pittsburgh, Cincinnati, Louisville, St. Louis, Toledo, Chicago, its rapid growth in population and commercial standing, is almost unprecedented in the annals of this country. From an insignificant village, when the improvement of this harbor first commenced, it has grown into a city of 50,000 inhabitants, and is increasing with a rapidity and steadiness that give incontestible evidence of its future. The harbor, which is the undoubted origin of all this prosperity, and which at one time would have supplied ample space for the accommodation of the whole navigators of the lake, is daily becoming too contracted for the shipping that daily resort to it, burdened with the products of every clime. Already extensive wharfs and piers

have been extended into the lake, and are covered with immense depots and warehouses which, ere they can be finished, will be filled to overflowing. The great and steadily increasing trade at this port will, ere long, demand the erection of a breakwater for the protection of the lake front, and the safety of the fleets which seek it either for the purposes of commerce, or from refuge of the storm.

Within the collection district of this port are included the harbors of Conneaut, Ashtabula, Grand River and Black River. The subjoined statement, kindly furnished me by the collector of customs, will give some idea of the amount of the coastwise and foreign commerce of this district for a single year, which pays tribute to the government. I also subjoin a statement of the gross amount of freight arriving here by the Ohio canal, and regret that I was unable to procure a similar statement from the different railroads concentrating here, but this I could not do, as their year terminates on the 31st of December, and their whole force is fully occupied in attention to their daily current business.

From the report of the collector it will be seen that the number of sail vessels belonging to this district amounts to 142. The tonnage to 33,173 tons, and the number of seamen to 994; of steamboats, the number of vessels is 22; the tonnage 14,037; number of seamen 580.

The number of vessels in the domestic trade, entered during the year was 2,479; tonnage 946,442; seamen 40,401; cleared 2,460; tonnage 1,930,472; seamen 40,250. In the foreign trade the number of vessels entered was 481; tonnage 64,692; seamen 3,593; cleared vessels 390; tonnage 51,724; seamen 3,041.

In the domestic trade the estimated value of merchandise imported was.....	\$59,489,291
Cleared.....	35,552,573

Making a total of.....	<u>95,041,864</u>
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In the foreign trade the estimated value of merchandise imported was.....	490,788,000
Exported.....	572,870,000

Total imports and exports, foreign and domestic.	<u>96,105,522</u>
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By the Ohio canal the gross amount of freight arriving at Cleveland for the year ending October 1, 1854, was 319,745 tons, which, owing to the partial failure of the crops, the drought, which lowered the water in the canal, and the universal depression caused by the prevalence of the cholera, was less than that for the preceding year 23,975 tons; of articles exported, the gross amount was 59,375, being a decrease from that of the previous year, for the causes above referred to, of 5,281 tons.

A detailed statement of the various articles embraced in this abstract is attached.

Harbor of Black River.

Operations under the appropriation for this harbor have been confined altogether to the west pier upon which the light-house or beacon is situated; with the appropriation, 360 feet of pier has been rebuilt in

a depth of from five to seven feet beneath the surface, in a solid and substantial manner ; nearly the whole of which is planked and finished. The appropriation running short, refuse ship plank were spiked upon the remainder, so as to retain the stone work within the cribs. The amount appropriated for this work was but \$5,000, and \$5,205 68 has been expended upon it, making an excess of \$205 68 over the appropriation, which was supplied from the funds of the Light-house Board, the repairs being directly connected with expenditures on account of the light-house at the end of the pier. Some further repairs will be required to the west pier, including the rebuilding of the pier head, the detailed estimate for which is hereunto attached.

The east pier is much dilapidated, and a portion of it at the outer end, 300 feet in length, entirely gone, except two detached portions, which will require to be torn away. The rest of the pier to the shore, some 700 feet in length, can be repaired so as to last for many years, and an estimate is submitted for the purpose.

A pier head is imperatively demanded at this head of the pier for its protection, and is estimated for accordingly.

Notwithstanding the dilapidated condition of the piers, the harbor maintains a good depth of water, even at the present low stage of the lake; the soundings on the chart accompanying this report showing a depth of eleven feet across the entrance, which it maintains to the inside of the harbor, except where the stone from the old broken piers has been deposited inside the piers, or where obstructions have lodged, and not been carried away by the current, owing to its dissipation when it reached the point where the piers had disappeared.

The harbor is an excellent one, and only requires to be maintained to make it an important point for refuge to the navigation of the lakes.

Estimates were submitted with my annual report for 1853, for the completion of the repairs of this work, amounting to \$22,344 50. A more careful admeasurement, resulting from a complete survey of the harbor, together with the consideration of increased prices for materials and labor since that estimate was made, has induced me to submit a revised estimate of the cost of this work, the details of which are attached.

Estimate for the repair of the harbor of Black River, east pier.

To rebuild 300 feet of pier, thirteen feet wide, from six feet below the surface.....	\$6,324 00
To repair and partially rebuild from the water surface, 725 feet, same pier.....	6,500 00
To face up 225 feet on inner end of pier to prevent breach.	862 50
For pier head, forty feet square in fifteen feet water, to rise nine feet above the surface.....	4,291 40
Total for east pier.....	<u>17,977 90</u>

West pier.

To rebuild 210 feet on inner end of pier.....	\$2,340 10
To repair and face up 800 feet inside the harbor.....	4,000 00
To repair 125 feet north end of the pier.....	1,250 00
To rebuild pier head from surface of water, thirty-five feet square	2,433 60
Total west pier.....	<u>10,023 70</u>

RECAPITULATION.

East pier.....	17,977 90
West pier.....	10,023 70
Contingencies, ten per cent.....	2,800 16
	<u>30,801 76</u>

No estimate has been made for the extension of the east pier, as the harbor now answers all the purposes it was designed to effect. From the accompanying chart it will be perceived that the west pier extends considerably beyond it out into the lake, and should it, upon the restoration of the east pier, be thought desirable to extend it further, the building of the pier head can be deferred until the question be decided.

Harbor of Vermillion.

The repairs to this harbor were made for the Light-house Board, under order of the bureau, the reports being rendered to the Board. The amount available for the purpose was so very small that its expenditure has been directed simply to securing the end of the pier from further incursions of the lake; to securing the temporary beacon which had been erected upon its extremity; and to the construction of a temporary walk upon the old broken and decayed pier, to enable the keeper to reach his light without imminent risk of life.

The balance in my hands at the commencement of the season was \$114, to which has been added the sum of \$62.

The keeper's walk has been completed to the shore, and the gallows frame of the lantern secured. Nothing, of course, could be effected toward the repair of the pier with the limited amount of funds at my disposal. A detailed report will be made to the Light-house Board, to whom, by instructions from the bureau, directed me to report as to this work and that of the light-house pier at the harbor of Huron.

In my last annual report I submitted an estimate for the thorough repair of this harbor, amounting to \$24,453 53. A survey of the locality made during the present season has enabled me to present one more in detail, and to embrace several items which were omitted in the cursory examination necessarily given to the work at that time for

want of a regular survey and measurement. The estimate now submitted, which is somewhat increased above that of last year, will, it is believed, cover the expense of a complete repair of the piers as far as they at present extend. A further extension was, I believe, contemplated by the former Board of Engineers, but I have no documents at hand to show me the extent. That the pier should be extended further into the lake will, I think, be evident from an inspection of the chart of the harbor, made from the survey of this season. The deepest water found by the soundings taken in August is little more than eight feet, although it is not doubted that the completion of the east pier, by confining and directing the current of the river in the spring, will sweep out the space between the piers, and materially deepen the water. There is, however, a ledge of slate rock on the west side of the harbor, beyond which the current cannot deepen the water, and it was originally contemplated to carry out the piers beyond the influence of this obstruction, which has a dip to the northeast. The present estimate does not contemplate this extension, but is confined simply to putting the piers, as they at present exist, into a complete state of repair.

Estimate of funds required for continuing the improvement of the harbor of Vermillion.

West pier.

To raise 125 feet of pier, twenty-four feet wide, five feet high	\$2,035 68
To rebuild from the water edge 1,000 feet of pier	14,600 16
To face up 400 feet of pier, (inland)	1,000 00
Total of west pier	<u>17,635 84</u>

East pier.

To bring up ninety feet of pier to surface of the water	632 48
To rebuild 350 feet of pier from surface, six feet high, twenty-four feet wide	7,909 60
To face up and repair 740 feet, (inland)	<u>3,700 00</u>

RECAPITULATION.

West pier	17,635 84
East pier	12,242 08
Contingencies, ten per cent	2,987 79
Total for harbor of Vermillion	<u>32,865 70</u>

Harbor of Huron.

The appropriation for this work having been nearly exhausted by the operations of last year, but little could be done upon the east pier,

to which, by order of the bureau, the expenditure was confined. Three cribs have been put in, commencing at the inner end of last year's work, to prevent the washing of the sand into the harbor from the beach. The limited amount at command would only allow me to raise there cribs three feet above the water, but this will be sufficient for the present, and will materially aid in preventing the washing of sand into the harbor, the depth of which was rapidly decreasing in consequence. As reported last year, 210 feet at the outer end of this pier remains to be completed. A pier head will also be required for its protection. The inner end of the new pier will require to be extended inland 120 feet, and portions, also inland, will require facing up to prevent the drifting in of the sand, which is seriously injuring the harbor. The amount appropriated for this work (the whole of which has been expended upon the east pier) was \$10,000, of which \$9,192 19 had been expended on the 30th September, leaving a balance of \$807 81, the whole of which will be needed this season for the work referred to above. The amount of work done with the appropriation has been 630 feet, rebuilt from an average depth of three and a half feet below the surface of the water, filled with stone and planked, and the putting in of three cribs inside of this work, as above mentioned. For the west or light-house pier, the amount expended was furnished from the appropriation for light-house purposes, and was placed in my hands by the Light-house Board. During a heavy gale on the 30th of May, the beacon erected on the end of this pier, and which was an old and much decayed structure, was capsized by the violence of the wind, and precipitated into the lake. The beacon, in falling, so destroyed the integrity of the pier head, that it also was soon carried away by the action of the waves, to a depth of seven and ten feet below the surface. This was a fortunate circumstance, as the beacon was so much decayed and dilapidated that it was unsafe, and would not have been worth repairing. It had been determined also to tear away the old pier head, which was also in a dilapidated state, and to renew it in a more substantial manner. Operations were progressing at the time to carry this into effect. The action of the elements saved the time and expense of removal, and upon the old foundation a new and most substantial pier head has been constructed, rising to a height of nine feet above the surface of the water, connected with the pier head and dovetailed and bolted to it. Ninety feet of new pier has been constructed in an average depth of about eight feet, and carried up to a height of six feet, access to the pier head being secured by steps.

In the centre of the pier head a vacant space or bay has been left, which is to be filled with biton to the surface of the water, so as to form not only a foundation for the new beacon, but also a solid core or nucleus of stone, which will materially aid in the preservation of the pier head. The character of the workmanship of this pier head is of the very best and most substantial character, and reflects much credit upon the builder, Mr. Charles Wilbor, to whom I committed the charge of its construction. In the preparation of the foundation upon the old work, which was very irregular in deep water, and in a very exposed situation, he has evinced much skill, perseverance, and judgment; the result is a work which, for solidity and finish, will compare with any upon the lake. The whole amount received from the Light-house Board

has been \$5,492 28, of which \$5,239 71 had been expended up to September 30, leaving a balance of \$252 57.

The top course yet remains to be placed upon the pier head, the timber for which has been prepared. This will be done next spring; the gales of autumn in the exposed position of this part of the work rendering it inexpedient to do so this fall. It will consume the whole of the balance in hand.

In my last annual report I stated that this pier was so much broken by storms that it would require to be renewed above the water its whole length, and three serious breaches would require to be repaired from a greater depth. The low stage of the water the present season has afforded opportunity, in connexion with the survey of the harbor which has been made, for a more thorough examination of the foundation of such parts of the old pier as still remain. The result is a conviction that it will have to be rebuilt its whole length from an average depth of five feet below the surface, and an estimate is accordingly submitted for this purpose. The inside of the harbor will also require some repair, which is also estimated for. The repair of this pier, which is the light-house pier, is indispensable. There is no communication with the beacon from the shore, except by boat, which in heavy weather is difficult, and not unfrequently impossible; so that the keeper has often to light his lamps in the morning in anticipation of the coming storm, lest he should not be able to reach his light in the evening. It is also necessary for the integrity of the harbor, and for the safety of vessels *after entering*, as it is wholly exposed to the full rake of both winds and waves for four hundred feet, from a breach of that length upon which the depth exceeds four feet.

Estimate of funds required to complete the repairs of the harbor of Huron.

West or light-house pier.

To rebuild the west pier, from five feet below the surface of the water :

1,200 feet of pier, 12 feet wide, to rise six feet above the water.....	\$20,279 20
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East pier.

To complete the east pier at the northern extremity by rebuilding 210 feet of pier upon the old foundation 8 feet below the surface.....	4,120 58
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To construct a pier head 40 feet square in 15 feet water, to rise 9 feet above the surface.....	5,291 40
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To rebuild 120 feet to connect the inner end of the east pier with the shore.....	1,831 84
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To face up and repair 500 feet inside the harbor.....	2,500 00
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13,743 82

RECAPITULATION.

West pier	\$20,279 20
East pier	13,743 82
Contingencies, 10 per cent	3,402 30
Total	<u>37,425 32</u>

- The harbor of Huron is one of the best on the lake, being exceeded in capacity only by that of Grand River. The depth at a low stage exceeds twelve feet, which is maintained and even increased within the harbor, the entrance to which is 180 feet in width. The northern branch of the Cleveland and Toledo railroad passes through the town, and a branch of the Sandusky and Mansfield railroad terminates at the port, opening a direct communication with Bellefontaine, Springfield, Dayton, Cincinnati, and Indianapolis. The country in the vicinity abounds in oak timber of the finest quality, and ship building is extensively prosecuted. An abstract of the imports and exports of the port is attached to this report.

Harbor of Sandusky.

The operations at this work have been directed first to *building up* on the line of crib work constructed last year, which had, as was anticipated, settled in many places very considerably, the foundation being merely a bed of sand. The length of the crib work built last season was 657 feet, which has been extended this season 375 feet across a new breach which had taken place around the eastern end of the old work, and had formed a channel entirely across the point, sweeping out the sound to the depth of eight feet, and 150 feet in width. The character of this work is the same as that of the preceding season, namely, cribs twelve feet wide of round timber, well bolted, put down on a bottom of brush, and filled with stone. The length of the continuous work is therefore now 3,032 feet. Another breach still farther east has also been stopped in a similar manner by a line of crib 325 feet in length. This latter work is not connected with the long line of crib work, but distinct from it; and its position is designated upon the map of survey hereunto attached.

I have no reason to change the opinion expressed in my last annual report of the happy results attending the construction of this work; on the contrary that opinion is confirmed by the experience of this season. The work stood the test of the winter storms quite satisfactorily. It is true that some portions of the pier sunk in places considerably into the sand; but this was to be expected from the nature of the bottom, and so far from proving a disadvantage, has only added to its security, and was of all others the result most to be desired. It has, as far as it extends, formed a complete breakwater against the encroachment of the lake. Large banks of sand have formed on each side, which are beginning already to be covered with bushes, which, when grown, will have a tendency to increase the permanency and stability of the barrier.

The whole of Peninsula Point consists of a bank or spit of sand,

which is the only protection of the harbor against the lake. It is liable at all times to be destroyed or washed away in places by the action of the waves, which, having once made a breach through any part of it, will continue to enlarge the opening until the harbor is ruined. I am convinced, however, that the mode adopted for the prevention of such a catastrophe will prove perfectly effectual. But in order to render it so the artificial breakwater should extend the whole length of the point to its extremity, and should be *built upon* as it continues to sink, until it reaches a firm foundation beneath the sand cast up by the lake. The pier forms a core or nucleus around which the sand will continue to collect, and by preventing the formation of an incipient current across the point, will effectually put a stop to the occurrence of any more extensive breaches through it. With this conviction I have submitted an estimate for the extension of the work, upon the present plan, the whole length of the "Point."

The estimate for this extension is made *pro rata* from the amount expended by the agent upon the work already constructed; although I am of opinion, that by judicious management, and carrying on the work in connexion with that to be proposed, it can be done for much less. The tools, machinery of every kind, workshop, and boarding-house, have, of necessity, been purchased out of the appropriation already expended, and will, of course, be available for all future operations.

The amount appropriated for this work was \$15,000, of which there has been expended \$14,835 31, leaving a balance in my hands of \$164 69. The larger portion of this sum was expended before I took charge of the work,

The most costly portion of this improvement, and without which the rest, although highly important, will be comparatively valueless, remains to be mentioned. Between the main land, and the small island, at which the work commenced last season, a cut or breach has been made, many years since, nearly 3,000 feet in width. A careful survey and sounding of this cut was made in August, in connexion with one of Peninsula Point, a chart of which is herewith submitted. From this it will be seen that the depth of water through the cut is from four to six feet. The bottom is sand, and any work across the beach may well be expected to sink to about an uniform depth, before it finds a solid foundation beneath the sand. This bottom or foundation is assumed to be eight feet below the surface of the water. It is proposed to connect, on a line indicated upon the chart, the small island above referred to with the main land by a pier, or breakwater of crib work, filled with stone, 2,700 feet in length, 20 feet in width, to rise six feet above the surface of the water, so as to form a permanent barrier against any further incursions from the lake. The situation is a very exposed one, and in times of high winds, the current rushes through the cut with almost resistless force, and with a velocity of three and four miles an hour. An attempt was formerly made to close this breach, by similar means, and a commencement was made at both ends, but the work was not finished, owing, I believe, to the absence of any further appropriation, leaving the middle of the breach, in the deepest water, entirely untouched. Being unsupported in the centre, the work was entirely destroyed by the waves, and there remains but one single crib connecting with the

main shore, to show that such a structure had ever been contemplated. A considerable portion of the north side of the small island, which was then covered with a forest of heavy timber, has also been washed away, leaving the lifeless bodies of the trees uprooted, and lying in the water. This process is still going on, and ere many years what still remains of the island itself will share the same fate and entirely disappear, or be converted into a bank of shifting sand.

The construction of this breakwater will be a work of considerable difficulty, owing to the uncertainty of the foundation, and the exposure of the work to sudden destruction by storms, before it can be connected from one end to the other. If undertaken at all, the appropriation for its construction should cover the whole estimated cost at once, that there may be no interruption or delay for want of funds, which proved so fatal to the first undertaking. An estimate of the cost is submitted, in compliance with the instructions of the bureau, with the expectation that both the plan and the estimate for its accomplishment will undergo the revision, and be subject to the better judgment of the Board of Engineers. An estimate is also submitted for connecting this proposed breakwater with that already constructed, by a short pier across the small island, similar in its character to that adopted for the protection of Peninsular Point.

Estimate for completing the improvement of the harbor of Sandusky.

For building an entire new pier, 2,700 feet long, 20 feet wide, and 14 feet high, to close the breach between Peninsula Point and the main land, 90 cribs of 30 feet at \$900 per crib.....	\$81,000
For connecting the above breakwater, across the island, with the pier already built, 450 feet of pier, at \$4 50 per foot.....	2,025
To build 4,050 feet of rough crib-work, to complete the protection of Peninsula Point, to its extremity, at \$4 50 per foot.....	18,900
Contingencies, 10 per cent.....	10,192
	112,117

The position and value of the harbor of Sandusky to the navigation of the whole chain of lakes, is too well known to require comment. Possessing a bay of noble expanse, land-locked on all sides, with sea room sufficient to afford shelter to an immense navy, all that is required to render it one of the noblest harbors to be found on these waters is an increased depth of water in the channel, connected as it is by innumerable railroad communications with east, west and south. The necessity, as far as practicable, of increasing its approaches by water must be apparent. I have been furnished by the local agent for this work with the following statistics relative to the trade and commerce of the port, procured, as he states, "from the custom-house and from the different warehousemen and railroad companies."

Value of imports coastwise, exclusive of express packages.....	\$32,877,879 00
Value of exports coastwise, exclusive of express packages.....	25,070,259 00
Value of imports from foreign countries.....	90,055 00

Total value of imports and exports for the year ending September 30.....	<u>60,038,193 00</u>
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Tonnage of vessels belonging to Sandusky :

Sail vessels	6,706
Steamers	1,179
Total for 1854.....	<u>7,886</u>

The agent adds : " the foregoing exhibit does not include the exports of stone from this port, which, during the last year, have been unusually large. The necessary information has not yet been obtained from the different establishments dealing in this article to enable me to state, with anything like exactness, the amount or value of this trade ; it is, however, very large, both cut and rubble, and also limestone." The amount of duties collected for the last eight years, is as follows :

1846	\$334 72
1847	553 22
1848	1,423 70
1849	11,152 00
1850	20,806 55
1851	33,841 20
1852	94,451 80
1853	53,591 92
1854	<u>24,981 10</u>
In bond	45,539 79
Total	<u>70,523 89</u>

The agent closes his communication by saying : " In connexion with the above exhibits, it must be borne in mind that the commerce and business of this port have been very much depressed the past season by the almost entire failure of the crops of northern Ohio. On the 30th of June scarcely a bushel of wheat or a barrel of flour had been shipped from this port for any market, whereas, ordinarily, these articles formed four-fifths, or nearly so, of our entire exports. "

Harbor of Monroe.

From the very small balance on hand to the credit of this work, nothing has been done here during the past season. All that has been done under the appropriation was executed under the direction of the local agent, before the charge of the work was assigned to me. From

his report I learn that the south pier is completed 400 feet into the lake; the north, or light-house pier, has been rebuilt 700 feet, but is still in an unfinished state.

The amount expended by Mr. Darrah, the agent, was \$11,500. That expended since I assumed charge of the work is \$1,174 91, most of which was in liquidation of debts previously incurred for materials. There therefore remains a balance in my hands of \$1,325 09, very little of which, however, will be available for the purposes of further repairs, being for the most part due; as soon as I receive the accounts from the agent I shall settle them at once. The north pier will still require extensive repairs.

In attempting to widen the pier, the north line of the cribs extending over the old work was placed upon the sand, whilst the corresponding timber on the south side rested upon the old work as a foundation. The consequence is that the whole of the upper work of a considerable portion of the pier inclines very much to the northward, from the insufficiency of the foundation on that side, racking it, and rendering further repairs necessary before the planking can be put down. The eastern end of the pier for 300 feet has not been touched, and will require to be wholly rebuilt from the water; about 500 feet of the new work which has been built will require, when finished, to be planked, for which there is a sufficiency of material on hand.

In accordance with the recommendation of the Board of Engineers, in their last annual report, I submit, in connexion with those for other portions of the work, the estimate made by them for the further extension of both piers into the lake a distance of 150 feet each, "out to the maximum draught of lake navigation, viz: twelve feet.

The present pier head is in a very dilapidated condition, but the foundation of the beacon being built upon piles within it and separate from it, no fears are entertained for its safety at present; should the extension of the pier take place the beacon would, of course, be removed to its extremity; an estimate is submitted for the construction of a pier head for its protection.

Estimate for continuing the repairs of the harbor of Monroe, Michigan.

North pier.

To rebuild from two feet below the surface 350 feet of pier eighteen feet wide.....	\$7,083 96
To repair 200 feet and partially rebuild the same—200 feet at \$5.....	1,000 00
Planking last year's work.....	310 00
For extending both piers 150 feet each, as per estimate of Board of Engineers.....	10,060 00
Construction of pier head for north pier.....	4,762 20
Contingencies, ten per cent	2,321 61
	25,537 77

The harbor of Monroe is situated in the collection district of Detroit,

the nearest port of entry being Toledo. It is the terminus of the Southern Michigan and Northern Indiana railroad. A continuous line of road now extends from this port to Rock Island on the Mississippi, a distance of 422 miles, with numerous branches entering at different points, bringing the productions of that great valley to this harbor for shipment.

The number of vessels cleared during the past year was 230; arrived 270. As far as I could ascertain from the report of the agent, the following are the principal shipments: staves 691,000, boat knees 10,012, wheat and corn 377,306 bushels, flour 79,069 barrels, lumber 766,936 feet, merchandise 20,000 tons.

The amount of duty collected within the district amounted to \$50,000.

SUMMARY OF ESTIMATES.

Harbor of Conneaut.....	\$12,984 81
Harbor of Ashtabula.....	31,918 04
Harbor of Grand River.....	15,004 56
Harbor of Cleveland.....	40,618 78
Harbor of Black River.....	30,801 76
Harbor of Vermillion.....	32,865 71
Harbor of Huron.....	37,425 32
Harbor of Sandusky.....	112,117 00
Harbor of Monroe.....	25,637 77
	339,373 75

H. STANSBURY,
Captain Topographical Engineers.

Col. J. J. ABERT,
Chief Bureau Topographical Engineers.

Estimate of funds required for continuing the improvements at the harbor of Conneaut, Ohio, during the year ending June 30, 1856. Transmitted to the general superintendent by the local agent.

16,800 feet of crib timber, at 14 cents per foot	\$2,352 00
22,680 feet of ties, at 14 cents per foot.....	3,175 20
10,800 feet of long timber, at 14 cents per foot	1,512 00
16,200 feet of longitudinal cross ties, at 14 cents per foot.....	2,268 00
500 feet of posts, at 14 cents per foot.....	70 00
9,600 feet of plank, at \$30 per M.....	288 00
1,200 feet of boards, at \$10 per M	12 00
950 cords of stone, at \$5 per cord	4,750 00
4½ tons of iron for bolts, at \$90 per ton	405 00
1,200 pounds of spikes, at \$6 per hundred.....	72 00
1,950 days' carpentering, at \$1 50 per day.....	2,925 00
800 days' labor, at \$1 per day.....	800 00
450 weeks' subsistence, at \$250 per week.....	1,125 00
Smithing.....	150 00
Stone scow.....	300 00
Crane scow.....	750 00
Contingencies, 10 per cent. on the above.....	2,095 42
	23,049 62

Estimate of funds required for continuing the improvements of the harbor of Ashtabula, Ohio, during the year ending June 30, 1856.

19,600 feet of crib timber, at 14 cents per foot.....	\$2,744 00
27,460 feet of ties, at 14 cents per foot	3,844 40
12,600 feet of long timbers, at 14 cents per foot.....	1,764 00
18,900 feet of longitudinal ties, at 14 cents per foot	2,646 00
600 feet of posts, at 14 cents per foot	84 00
9,100 feet of plank, at \$30 per M.....	273 00
1,500 feet of timber, at \$10 per M.....	15 00
1,106 cords of stone, at \$5 per cord.....	5,530 00
5½ tons of iron, at \$90 per ton	495 00
1,500 pounds of spikes, at \$6 per hundred.....	90 00
2,275 days' carpentry, at \$1 50 per day.....	3,412 50
931 days' labor, at \$1 per day.....	931 00
535 weeks' subsistence, at \$2 50 per week.....	1,437 50
Smithing.....	200 00
Crane scow	750 00
Stone scow	300 00
Completing repairs of old pier.....	4,500 00
Contingencies, 10 per cent. on the above.....	2,901 64
	31,918 04

Estimate of funds required for continuing the improvements of the harbor of Grand River, Ohio, during the year ending June 30, 1856.

30,800 feet of crib timber, at 14 cents per foot.....	\$4,312 00
40,780 feet of sawed ties, at 14 cents per foot.....	5,709 20
19,800 feet of long timber, at 14 cents per foot	2,772 00
28,700 feet of longitudinal and cross ties, at 14 cents per foot.....	4,018 00
913 feet of posts, at 14 cents per foot	127 82
14,300 feet of 3-inch plank, \$30 per M	429 00
2,000 feet of lumber, at \$10 per M.....	20 00
1,738 cords of stone, at \$5 per cord	8,690 00
10 tons of iron, at \$90 per ton	900 00
2,200 pounds of spikes, at \$6 per hundred	132 00
3,735 days' carpentry, at \$1 50 per day	5,602 50
1,463 days' labor, at \$1 per day.....	1,463 00
825 weeks' subsistence, at \$2 50 per week	2,062 50
Crane scow	750 00
Stone scow	300 00
Smithing.....	300 00
Contingencies, 10 per cent. on the above amount.....	3,758 80
	41,346 82

HARBOR OF CLEVELAND.

Estimate of funds required for continuing the improvements of the harbor of Cleveland, during the year ending June 30, 1856.

WEST PIER.	
1. For construction of a new west pier outside of the present dilapidated structure according to the estimate of the Board of Engineers, 750 feet in length—	
25 cribs, 30 feet long, 12 feet wide, and 16 feet high, at \$600.....	\$15,000 00
2 cribs, 30 feet long, 20 feet wide, and 16 feet high, at \$820.....	1,640 00
Compensation for agent, 365 days at \$4.....	1,460 00
Contingencies, 10 per cent.....	1,810 00
	<u>19,910 00</u>
2. For rebuilding old pier, 750 feet long, from an average depth of 4 feet—	
14,500 feet of timber at 14 cents.....	2,030 00
10,800 feet of ties at 14 cents.....	1,512 00
4 tons bolt iron at \$90.....	360 00
300 cords stone at \$5.....	1,500 00
Carpentry and labor.....	4,000 00
Contingencies, 10 per cent.....	940 20
	<u>10,342 20</u>
3. For connecting the new pier with the old—	
6,750 feet of long timber at 14 cents.....	945 00
7,596 feet connecting ties, at 14 cents.....	1,063 44
1½ tons of bolt iron, at \$90.....	135 00
9,000 feet of ties for deck, at 14 cents.....	1,260 00
2,225 feet long timber, at 14 cents.....	311 50
1 ton bolt iron, at \$90.....	90 00
36,000 feet 3-inch oak plank for deck, \$30.....	1,080 00
Carpentry and labor.....	3,500 00
Contingencies, 10 per cent.....	838 49
	<u>9,223 43</u>
RECAPITULATION OF WEST PIER.	
Constructing new pier.....	19,910 00
Rebuilding old pier.....	10,342 20
Connecting the piers.....	9,223 43
Total for west pier.....	<u>39,475 63</u>
EAST PIER.	
1. For tearing up and removing the shattered end of the east (stone) pier, and rebuilding it from the water's edge—66 feet long, 16 feet wide, and 9 feet high—	
9,504 feet of masonry, (labor only,) at 50 cents per foot, materials on hand....	4,752 00
Cramps, straps, and dowels.....	500 00
Tearing up old work.....	1,000 00
Contingencies, 10 per cent.....	625 20
	<u>6,877 20</u>
2. For tearing up the wooden platform in front of the beacon on the outer end of the east pier, and replacing it with a structure of masonry, to correspond with the rest of the pier, and to form a solid pier-head 59 feet long, 25 feet broad, and 13 feet high—	
17,700 cubic feet of masonry, at 75 cents per foot, including materials.....	13,275 00
Tearing up and removing old work.....	500 00
Contingencies, 10 per cent.....	1,377 50
	<u>15,152 50</u>

HARBOR OF CLEVELAND—Continued.

3. For removing crib surrounding foundation of beacon, and replacing the same with masonry, connecting it with the pier-head proposed to be built as above, 30 by 25 feet, 14 (the size of the present foundation of the beacon,) and 9 feet high—	
4,986 cubic feet of masonry, at, including materials, 75 cents.	\$3,739 50
Contingencies, 10 per cent.	373 95
	4,113 45

RECAPITULATION.

EAST PIER.	
Repair of outer end of pier.....	\$6,877 20
Replacing platform with masonry.....	15,152 50
Repairing foundation of beacon.....	4,113 45
Total for east pier.....	26,143 15
SUMMARY.	
East pier.....	26,143 15
West pier	39,475 63
	65,618 78
Deduct amount of appropriation on hand and available	25,000 00
Total amount of estimate	40,618 78

HARBOR OF BLACK RIVER.

Estimate of funds required for the improvements of the harbor of Black river, Ohio, during the year ending June 30, 1856.

EAST PIER.	
To rebuild 300 feet of pier, 13 feet wide, from 6 feet below the surface—	
7,200 feet of long timber, at 14 cents.....	\$1,008 00
7,020 feet of sawed ties, at 15 cents.....	1,053 00
195 cords of stone, at \$5.....	975 00
2 tons of iron, at \$90.....	180 00
3,600 feet of plank, at \$30.....	108 00
Carpentry and labor.....	3,000 00
	6,324 00
To repair and partially rebuild from the surface of the water 725 feet of same pier.....	6,500 00
To face up 225 feet on inner end of pier to prevent breach—	
2,025 feet of timber, at 14 cents.....	283 50
600 feet of ties, at 14 cents.....	84 00
$\frac{1}{2}$ ton of iron, at \$90.....	45 00
Carpentry and labor	450 00
	862 50

HARBOR OF BLACK RIVER—Continued.

For pier head, 40 feet square, 15 feet water, and to rise 9 feet above the surface—	
9,360 feet of crib timber, at 15 cents.....	\$1,404 00
209 cords of stone, at \$5.....	1,045 00
2 tons of bolt iron, at \$95.....	190 00
1,600 feet of plank, (3-inch) at \$30.....	48 00
1,480.....do.....do.....for outside, at \$30.....	44 40
10 kegs of spikes, at \$6.....	60 00
Carpentry and labor.....	1,500 00
	<u>4,291 40</u>

WEST PIER.

To rebuild 210 feet on the inner end of west pier—	
3,360 feet of long timber, at 14 cents.....	470 40
2,856 feet of ties, at 15 cents.....	428 40
45 cords of stone, at \$5.....	225 00
1,500 pounds of iron, at \$90.....	135 00
2,310 feet of plank, at \$30.....	69 30
2 kegs of spikes, at \$6.....	12 00
Carpentry and labor.....	1,000 00
	<u>2,340 10</u>

To repair and face up 800 feet inside the harbor, at \$5 per foot.....	4,000 00
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To repair 125 feet, end of west pier.....	1,250 00
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To rebuild pier head from surface of the water, 35 feet square—	
3,840 feet of timber, at 14 cents.....	537 60
42 cords of stone, at \$5.....	210 00
800 feet of plank, at \$30.....	24 00
1,800 pounds of iron, at \$90.....	162 00
Carpentry and labor.....	1,500 00
	<u>2,433 60</u>

RECAPITULATION.

EAST PIER.	
Rebuilding 300 feet.....	\$6,324 00
Repair and partially rebuild 725 feet.....	6,500 00
Face up 225 feet.....	862 50
Pier head.....	4,291 40
WEST PIER.	
Rebuild 210 feet inner end.....	2,340 10
Repair and face up 800 feet inside.....	4,000 00
Repair 125 feet north end west pier.....	1,250 00
Rebuild pier head from surface of the water.....	2,433 60
Contingencies, 10 per cent.....	2,800 16
	<u>30,801 76</u>

VERMILLION HARBOR.

Estimate of funds required for continuing the improvements of the harbor of Vermillion during the year ending June 30, 1856.

WEST PIER.

For raising 125 feet 5 feet high—	
1,800 feet of timber, at 14 cents	\$252 00
2,112 feet of ties, at 14 cents	295 68
90 cords of stone, at \$5	450 00
2,600 feet of plank, at \$30	78 00
1,000 pounds of spikes, at \$6	60 00
Carpentry and labor	900 00
	2,035 68
To tear up and rebuild from the foundation of the waters edge 1,000 feet of pier, fill with stone and plank over, 24 feet wide and 5 feet high—	
15,000 feet of oak timber, at 12 cents	1,800 00
17,568 feet of oak ties, at 12 cents	2,108 16
5 tons of $\frac{1}{2}$ bolt iron, at \$90	450 00
30 kegs of spikes, at \$6	180 00
568 cords of stone, at \$4	2,272 00
23,000 feet of 3-inch plank, at \$30	690 00
Smithing	500 00
Carpentry and labor	4,000 00
1 crane scow	750 00
1 stone scow	350 00
Tearing up old work	1,500 00
	14,600 16
To face up 400 feet of pier (inland)	1,000 00

EAST PIER.

To bring up 90 feet of pier to the surface of the water—	
1,080 feet of timber, at 14 cents	151 20
1,152 feet of ties, at 14 cents	161 28
1,000 pounds of iron, at \$90 per ton	45 00
55 cords of stone, at \$5	275 00
	632 48
To rebuild 350 feet of pier from the surface of the water 6 feet high and 24 feet wide—	
6,300 feet of timber, at 14 cents	982 00
7,440 feet of ties, at 14 cents	1,041 60
247 cords of stone, at \$5	1,335 00
7,700 feet of plank, at \$30	231 00
3 tons of iron, at \$90	270 00
10 kegs of spikes, at \$6	60 00
Carpentry and labor	4,000 00
	7,909 60
To face up and repair 740 feet inland, at \$5	3,709 00

RECAPITULATION.

WEST PIER.	
Raising 125 feet.....	\$2,035 68
Rebuilding 100 feet.....	14,600 16
Facing 400 feet (inside).....	1,000 00
EAST PIER.	
To bring 90 feet to surface of water.....	632 48
Rebuilding 350 feet.....	7,909 60
To face up and repair 740 feet inland.....	3,700 00
Contingencies, 10 per cent. on the above.....	2,987 79
	32,865 71

HARBOR OF HURON.

Estimate of funds required for completing the improvements of the harbor of Huron.

WEST PIER.	
1. To rebuild the west pier, from an average of 5 feet below the surface of the water, 1,200 feet of pier, 12 feet wide—	
26,400 feet of long timber, at 14 cents.....	\$3,696 00
22,080 feet of ties, at 14 cents.....	3,091 20
828 cords of stone, at \$5.....	4,140 00
12,000 feet of 3-inch oak plank, at \$30.....	360 00
6 tons of bolt iron, at \$90.....	540 00
10 kegs spikes, at \$6.....	60 00
Tearing up old work and clearing foundation.....	2,000 00
Smithing, carpentry, and labor.....	6,392 00
	20,279 20
EAST PIER.	
1. To complete the east pier, by reconstructing 210 feet of pier at the outer end, upon the old foundation, 8 feet below the surface of the water—	
5,880 feet of long timber, at 14 cents.....	823 00
4,872 feet of ties, at 14 cents.....	682 08
1½ tons of bolt iron, at \$95.....	142 50
10 kegs spikes, at \$6.....	60 00
170 cords of stone, at \$5.....	850 00
2,100 feet of 3-inch plank, at \$30.....	63 00
Carpentry and labor.....	1,500 00
	4,120 58
2. For pier-head, 40 feet square, in 15 feet water, to rise 9 feet above the surface—	
9,360 feet of long timber and ties, at 15 cents.....	1,404 00
209 cords of stone, at \$5.....	1,045 00
2 tons bolt iron, at \$95.....	190 00
1,600 feet of 3-inch plank, at \$30.....	48 00
1,480 feet of plank for outside, at \$30.....	44 40
10 kegs spikes, at \$6.....	60 00
Carpentry and labor.....	1,500 00
	5,291 40

HARBOR OF HURON—Continued.

3. To rebuild 120 feet at the inner end of the east pier—	
1,920 feet of long timber, at 14 cents.....	\$268 80
1,536 feet of ties, at 14 cents.....	215 04
45 cords of stone, at \$5.....	225 00
2,400 feet of plank, at \$30.....	72 00
1,000 pounds of bolt iron, at \$90.....	45 00
1 keg of spikes.....	6 00
Carpentry and labor tearing up old foundation.....	1,000 00
	1,831 84
4. To face up 500 feet inside, at \$5 per foot.....	2,500 00

RECAPITULATION.

Rebuilding west pier.....	\$20,279 20
Completing east pier, outside.....	4,120 58
Pier-head for east pier.....	5,291 40
Rebuilding 120 feet, inner end of east pier.....	1,831 84
Facing 500 feet inside.....	2,500 00
Total for Huron.....	37,425 32

Estimate of funds required to complete the improvements to the harbor of Sandusky.

1. For building a breakwater to close the breach between Peninsular Point and the main land. Length 2,700 feet, width 20 feet, height 14 feet. The breakwater to have a tier of longitudinal timbers through the centre of its whole length.	
Estimate for one crib of 30 feet—	
30 by 3 by 14, 1,260 feet of long timber, at 14 cents.....	\$176 40
62 ties by 20, 1,240 feet of ties, sawed, at 14 cents.....	186 00
30 pounds of bolt iron to 1 course by 14, 420 pounds, at 4½ cents.....	18 90
(30 by 17 by 14) 2,314, 4,826 cubic feet, 37 cords of stone, at \$4.....	148 00
30 by 17, 510 feet 3-inch plank for deck, at \$30.....	15 30
20 pounds spikes, at 6 cents.....	1 20
Smithing, carpentry, and labor.....	354 20
	900 00
90 cribs, at \$900 each.....	81,000 00
2. For connecting the breakwater with the pier already built across the island—	
450 feet, at \$4 50 per foot.....	2,025 00
3. To continue the protection of Peninsula Point by constructing—	
4,050 feet of rough pier to the extremity of the Point, at \$4 50.....	18,900 00
	101,925 00
Contingencies, 10 per cent.....	10,192 00
Total for Sandusky harbor.....	112,117 00

HARBOR OF MONROE, MICHIGAN.

For continuing the improvements of the harbor of Monroe.

1. To rebuild from 2 feet below the surface 350 feet of pier—	
9,450 feet of long timber, at 14 cents.....	\$1,323 00
7,514 feet of long ties, at 14 cents.....	1,051 96
338 cords of stone, at \$5.....	1,690 00
6,300 feet of plank for deck, at \$30.....	189 00
3 tons of bolt iron, at \$90.....	270 00
10 kegs of spikes, at \$6.....	60 00
Carpentry and labor.....	2,500 00
	<u>7,083 96</u>
2. To repair and partially rebuild 200 feet of present pier, at \$5 per foot....	1,000 00
3. To plank 300 feet—	
5,400 feet of plank, at \$30.....	162 00
8 kegs of spikes, at \$6.....	48 00
Carpentry and labor.....	100 00
	<u>310 00</u>
4. To extend both north and south pier 150 feet each, according to the estimate of the Board of Engineers.....	10,060 00
5. To construct a pier-head 40 feet square and 15 feet high, for the protection of the north pier and the beacon at its extremity—	
7,680 feet of long timber, at 14 cents.....	1,075 20
1,420 feet of ties, sawed, at 15 cents.....	213 00
2 tons bolt iron, at \$90.....	180 00
145 cords of stone, at \$5.....	725 00
1,200 feet 3-inch plank, at \$30.....	36 00
8 kegs spikes.....	48 00
77 cubic yards concrete, (foundation for beacon,) at \$5.....	885 00
Carpentry and labor.....	1,600 00
	<u>4,762 20</u>
Contingencies, 10 per cent.....	23,216 16
	<u>2,321 61</u>
Total for Monroe harbor.....	<u>25,637 77</u>

Statement giving a summary view of the coastwise and foreign commerce of the port of Cleveland during the year ending September 30, 1854.

Domestic trade.	Number of men.	Number of vessels.	Tonnage.	Foreign trade.	Number of men.	Number of vessels.	Tonnage.
Number, tonnage, and crew of sail vessels belonging to this district, September 30, 1854	994	142	33,173	Number, tonnage, and crew of vessels entered.....	3,593	481	64,692
Number, tonnage, and crew of steam vessels	580	22	14,037	Number, tonnage, and crew of vessels cleared.....	3,041	390	51,724
Number, tonnage, and crew of vessels entered	40,401	2,479	946,442	Value of merchandise exported .....	.....	.....	\$572,870
Number, tonnage, and crew of vessels cleared	40,250	2,460	930,742	Value of merchandise imported .....	.....	.....	490,788
Estimated value of merchandise entered .....	.....	.....	\$59,489,291	Amount of duties collected .....	.....	.....	143,437
Estimated value of merchandise cleared .....	.....	.....	35,552,573				
			\$95,041,864				

D. M. CROSS, Deputy Collector.

COLLECTOR'S OFFICE, CLEVELAND, OHIO, October 1, 1854.

Abstract of the principal articles of import received at the port of Cleveland, via the Ohio canal, from October 1, 1852, to October 1, 1853.

Articles.	Measure.	Weight in pounds.
Flour.....barrels....	614,032	22,105,112
Pork.....do.....	13,456	4,440,480
Whiskey.....do.....	41,487	14,207,380
Corn.....bushels....	222,645	12,468,624
Coal.....do.....	4,924,018	344,681,260
Wheat.....do.....	2,290,295	137,417,700
Oats.....do.....	20,353	671,649
Butter.....		1,726,870
Bag and furniture.....		1,004,519
Bacon and pork, in bulk.....		1,206,556
Cheese.....		1,004,519
Eggs.....		569,732
Green and dried fruits.....		572,296
Glassware.....		1,417,356
Lard.....		758,896
Pig and scrap iron.....		4,990,335
Railroad and bar iron.....		7,658,694
Merchandise.....		930,942
Nails.....		7,308,920
Oil-cake.....		81,221
Potter's ware.....		2,309,968
Wool.....		1,119,765
Sundries.....		5,968,274
Hoop-poles.....number....	12,731	25,465
Staves.....do.....	25,442	50,084
Lumber.....feet....	1,137,123	3,411,369
Timber.....do.....	309,964	18,597,840
Stone.....	27,558	68,895,000
Wood.....cords....	4,786	19,144,000
Shingles.....number....	10,000	1,500
		784,572,990

Abstract of the principal articles of imports received at the port of Cleveland, via the Ohio canal, from October 1, 1853, to October 1, 1854.

Articles.	Measure.	Weight in pounds.
Flour.....barrels....	351,602	75,996,032
Pork.....do.....	42,583	14,052,390
Whiskey.....do.....	26,781	9,642,200
Corn.....bushel....	411,172	23,025,632
Coal.....do.....	4,736,265	331,538,550
Wheat.....do.....	558,520	33,511,200
Bacon and pork, in bulk.....		726,912
Butter.....		1,588,109
Bag and furniture.....		566,718
Cheese.....		881,448
Eggs.....		329,400
Green and dried fruits.....		424,850
Ohio glassware.....		276,674
Pig and scrap iron.....		6,149,155
Railroad and bar iron.....		11,551,769
Lard.....		896,555
Merchandise.....		577,048
Nails.....		6,190,463
Oil-cake.....		248,546
Potter's ware.....		4,203,247
Wool.....		565,389
Ohio starch.....		423,776
Sundries.....		14,391,466
Timber.....feet....	110,951	6,577,060
Stone.....do.....	26,902	67,255,000
Wood.....cords....	5,993	23,972,000
Lumber.....feet....	1,313,187	3,939,561
		639,581,190

118,741,802	11,827,549	Feet
221,142	8,827,500	do
777,124	120,488	do
13,146,929		Sundries
641,827		Sugar
919,919		Flour
13,717,979		Iron ore
517,373		Nails and spikes
122,069		Molasses
1,324,324		Marble
729,329		Merchandise
209,919		Leather
1,324,324		Iron castings
16,114,614		Railroad and bar iron
1,009,813		Pig and scrap iron
6,210,210		Cypress
204,104		Grindstones
373,373		Crochery
329,329		Coffee
213,213		Bag and furniture
1,612,612		Wheat
11,327,11		do
609,609		do
11,613		barrels

Abstract of the principal articles of export from the port of Cleveland, via the Ohio canal, from October 1, 1852, to October 1, 1853.

Articles.	Measure.	Weight in pounds.
Fish .....barrels....	17,644	5,293,200
Salt.....	46,020	13,806,000
Coffee.....		1,494,437
Crockery.....		599,574
Gypsum.....		2,997,570
Pig and scrap iron.....		4,283,904
Railroad and bar iron.....		21,698,145
Iron castings.....		1,074,845
Leather.....		410,177
Merchandise.....		8,046,201
Marble.....		1,735,031
Molasses.....		1,226,631
Iron ore.....		9,447,804
Sugar.....		1,443,620
Powder.....		404,805
Sundries.....		10,131,821
Hoops.....	1,906,087	953,043
Shingles.....	8,004,596	1,200,689
Lumber.....	14,356,580	43,069,740
		129,317,237

Abstract of the principal articles of export from the port of Cleveland, via the Ohio Canal, from October 1, 1853, to October 1, 1854.

Articles.	Measure.	Weight in pounds.
Fish .....barrels....	11,643	3,492,900
Salt.....	37,851	11,355,300
Wheat.....bushels....	30,433	1,825,980
Bag and furniture.....		213,546
Coffee.....		733,263
Crockery.....		367,373
Grindstones.....		294,763
Gypsum.....		5,270,308
Pig and scrap iron.....		1,602,813
Railroad and bar iron.....		18,314,615
Iron castings.....		1,254,395
Leather.....		262,913
Merchandise.....		6,563,837
Marble.....		1,394,394
Molasses.....		454,649
Nails and spikes.....		576,733
Iron ore.....		13,717,979
Powder.....		912,911
Sugar.....		758,149
Sundries.....		13,146,999
Hoops.....	864,954	434,477
Shingles.....	6,822,500	341,125
Lumber.....feet....	11,857,549	35,572,447
		118,741,882

Abstract of the principal articles of imports received at the port of Huron, Ohio, from January 1 to October 1, 1854.

Articles.	Quantity.
Merchandise.....tons.....	684
Coal.....do.....	220
Salt.....bags.....	8,398
Salt.....barrels.....	13,335
Water lime.....tons.....	710
Plaster.....do.....	3,556
Fish.....do.....	1,326
White lead.....kegs.....	640
Stones.....	359
Marble.....pieces.....	269
Leather.....rolls.....	25
Lumber, pine.....feet.....	1,685,000
Shingles.....	930,000
Laths.....	331,000
Shingle bolts.....cords.....	46
Ship spars.....	87

Abstract of the principal articles of export from the port of Huron, Ohio, from January 1, 1854, to October 1, 1854.

Articles.	Quantity.
Flour.....barrels.....	9,605
Corn meal.....do.....	40
Pork.....do.....	370
Beans.....do.....	70
Eggs.....do.....	219
Dried apples.....do.....	45
Clover seed.....do.....	128
High wines.....casks.....	2,484
Smoked hams.....barrels.....	16
Ashes.....do.....	75
Butter.....tons.....	35
Lard.....do.....	11
Grindstones.....do.....	44
Grindstones.....do.....	175
Feathers.....sacks.....	11
Tobacco.....hogsheads.....	18
Wool.....bales.....	584
Wool.....pounds.....	4,000
Wheat.....bushels.....	20,205
Corn.....do.....	394,487
Oats.....do.....	130,848
Potatoes.....do.....	4,270
Live hogs.....	2,952
Sheep.....	1,580
Cattle.....	1,393
Lumber, black walnut.....feet.....	215,000
Lumber, oak.....do.....	164,000

APPENDIX E.

WASHINGTON, *September 25, 1854.*

SIR: Ill health has, until now, prevented me from making the annual report and estimates required by the regulations. They are respectfully subjoined:

Four snag boats were employed in the Mississippi, from the beginning of October until the 1st of February. Two in February and four in March, at an expense of \$62,000. They removed the snags as completely as practicable between the mouth of the Missouri and Red river.

Two large snag boats were employed in the Arkansas, in February, and the small one from the 1st of March until the middle of July. Although the navigation was improved from Napoleon to Van Buren, much "snagging" remains to be done. The lightest of the boats is of too heavy a draft to be used to advantage in the Arkansas.

The four large snag boats worked in the Missouri, from the middle of April until about the 10th of June, clearing it of snags from the mouth to the neighborhood of Lexington—about three hundred miles. They were then stopped because the appropriation was exhausted.

The small boat, under direction of C. A. Fuller, United States agent, removed the snags between the Falls and mouth of the Ohio, in December, January, and part of February.

In the harbor of Dubuque, in the fall of 1853, the dredge boat was employed in enlarging and deepening the entrance, and the "new cut" was excavated *down* to water mark.

The dredging was resumed on the 19th of May, 1854, in the new cut, and continued, except two weeks, till the 2d of August, when the work was suspended by orders received from the bureau. During the two weeks excepted, the boat was employed in the harbor, on account of low water.

The surveys of the rapids of the Mississippi were completed, and proposals advertised for last fall—none were received, however, before the end of the working season. Contracts were made during the winter. The contractors commenced the work as soon as the state of the river permitted, and have already improved the channel in the Rock Island rapids materially. The work in the Des Moines rapids proves to be much more difficult than expected, from the great quantity of flint encountered.

In the fall of 1853, the Illinois was surveyed from its mouth to Copperas creek, one hundred and fifty miles, and a channel cut through Guilford bar. The work was resumed in April 1854; the survey continued to the mouth of the canal—the dredge boat, in the meantime, working on Naples flats. When the survey was finished the dredge boat was removed to Spring Creek bar, the one nearest the canal, and employed upon it and Hennepin flats until the 11th of July, when it grounded. The Board of Engineers of Lake Harbors and Western Rivers, recommend in their report of August 1st, 1854, the extension of the survey of the river to La Salle. This survey had been completed some time before the date of their report. They also

censure the imagined practice of dredging only at low water. All the dredging of this season has been done at the stages of water recommended by the Board as most favorable. The difference between their estimate and that of Major Long comes from the fact, that the latter considers the badness of the machine, frequency of interruption, and hardness of the bars.

In the Ohio river the appropriation has been expended on the Cumberland dam, dredging about Cumberland island, the repair of Captina dam, and examinations of the numerous works between the Falls and Pittsburgh.

Estimate for one year.

For the construction of two light-draft snag boats, two machine boats, two dredge boats, for the Mississippi and its branches. *See estimate of Board of Engineers...	\$70,000
Continuing the improvement of the Mississippi below the rapids	60,000
Continuing the improvement of the Des Moines rapids	30,000
Continuing the improvement of the Rock Island rapids	30,000
Continuing the improvement of the Missouri.....	40,000
Continuing the improvement of the Arkansas.....	40,000
Continuing the improvement of the Illinois.....	20,000
Continuing the improvement of the Ohio.....	90,000
Causeway at Dubuque.....	20,000

Respectfully, your obedient servant,

J. E. JOHNSTON,

Superintendent western river improvements.

Col. J. J. ABERT,

Chief Topographical Engineers, Washington, D. C.

DUBUQUE, IOWA, September 1, 1854.

SIR: In obedience to your instructions, received the 10th ultimo, I have the honor to report the amount of work done this season in the improvement of the harbor of Dubuque, and also submit my estimate of the cost of completing the same, and the time required.

The accompanying sketch, full as my time would permit, will serve to illustrate the several points operated upon, and those remaining incomplete for the improvement of the harbor.

After a few days dredging in the north cut through Bass island, the river being sufficiently elevated, operations were commenced in the new cut on the 19th of May, and continued with diligence until the 12th of July; when, in consequence of low water, the dredge was removed to the line marked A. B., where she operated as long as practicable. On the 27th of July, the river having arisen, operations were resumed in the new cut and continued successfully until the 2d of August, when the works were suspended according to instructions.

* I recommend the sale of the two boats now in use.

Dredging executed at Bass island	280	cub. yards.
Do. do. line A. B.	1,195	do.
Do. do. new cut	15,045	do.
Total	<u>16,520</u>	do.

For the completion of the new cut there remain 25,000 cubic yards to be excavated, which can be accomplished during the ensuing autumn to low water mark, by contract, and with the dredge the spring following at an expense of \$3,500

Excavating 5,000 cubic yards along south bank of cut through Bass island, can be accomplished during this autumn and the ensuing spring, at an expense of 700

For the enlargement of the Naples cut I estimate 23,260 cubic yards. 3,000

"Outlet," 10,500 cubic yards. 1,600

To be accomplished by contract at above water, and dredging during the ensuing season.

Total

8,800

In proceeding with the work it will be proper to complete the "new cut" first, as for effectual service at either entrance. It is necessary to provide elsewhere for the large and increasing intercourse with the harbor.

The early completion of the "new cut" will also have a tendency to impede the formation of a bar which has been deposited southeast from the "Outlet," and continues to accumulate northward as indicated by the dotted line C. D., and presents an impediment which threatens the availability of the harbor from the north in the lower stages of the river.

Having thus far reported, I would submit that removing the alluvion of each succeeding spring over the entire harbor would involve an annual expenditure far exceeding the good attainable.

The constant and considerable deposit from the drainage of the city into the harbor in the absence of a current to counteract becomes an important source of injury. And lastly, the water in motion by the action of steamboats passing to and from the harbor abrades the sandy banks, and furnishes, especially in low water stages, a copious deposit, are considerations that convince me of the incompleteness and instability of the plan of improvement, and induce me most respectfully to suggest the propriety of constructing a causeway from the landing at Dubuque harbor, along the south bank of the "Naples cut" and "Outlet" to intersect with the main river, where a wharf extending southward would afford the accommodation that is much needed in low water.

The harbor improved to the extent of the original design will afford facilities at least during the elevated stages of the river (five months from the middle of March) for a period of years that will justify its completion, but not maintenance.

The causeway will suffice for the remaining three months of the

shipping season, and be an initiatory step in that which I conceive to be the only true mode of improvement.

Your unexpected call compels me to be satisfied with presenting the total estimate of \$20,000 for the construction of the proposed causeway, but should the plan meet with approval I can furnish detailed estimates and drawings when required.

Respectfully submitted by your obedient servant,
JOSEPH C. JENNINGS,
United States Agent.

Lieut. Col. J. E. JOHNSTON,
Superintendent W. R. Improvements, Louisville.

JACKSONVILLE, ILLINOIS, August 26, 1854.

SIR: In compliance with instructions received by me from you, I have the honor to submit the following as an answer to your letter of the 5th of August, requesting information in reference to the improvement of the Illinois river in the United States collection district of New Orleans, for the year commencing September 1, 1854, and ending September, 1855.

For the force necessary for the dredge-boat Gopher, No. 2, (or whatever boat may then be in commission,) for the months of September, October, November, April, May, June, July and August, eight months, it will require about \$1,500 per month, or \$12,000 to keep her in active service for the eight months specified above—or should two dredges be employed, the total amount would be about \$22,000; or should the plan of light draught boats, reported lately by Major Long to you to receive the dredge apparata of the Gopher, be adopted, the first sum will be increased by the cost of construction of said boats \$5,000, making the total \$17,000, and a like disposition made of the dredge apparata at Dubuque and put upon the Illinois river, the latter total of \$22,000 would be increased to \$32,000. I make this double estimate, as it was contemplated at the commencement of the work on the Illinois river that the dredge at Dubuque should be transferred to it.

The improvement effected consists in the cutting out of Guilford bar on the lower part of the river, in the fall of 1853, making it easy for low water navigation.

In April of the present year, 1,870 cubic yards of shells were removed from Naples flats, when the boat was transferred to Spring Creek bar, the uppermost bar to be improved; from Spring Creek bar 1,500 yards were removed, making both comparatively easy of passage, but not to the extent contemplated. From thence the boat was removed to Hennepin flats, from which was removed 1,500 yards, when she grounded, and where she now lies waiting for a rise of the river.

The river business consists in the transit trade between the eastern collection districts and the west, via the port of Chicago, to the ports of Alton and St. Louis, and way trade of the river country in both directions. The passages of boats by the Gopher for the months of May, June, July and August, eastward, amount to 460 steamboats and 989 canal boats and barges of 120 tons average, being towed by steam-tugs;

this is for the trade passing eastward; the western way trade is independent of this.

In answer to your last enquiry as to the amount of commerce and navigation to be benefitted by this improvement, I would state that it is extremely difficult to give anything like a correct estimate. The most reliable information that I have been able to get upon this subject I have extracted from the message of Governor Mattison to the legislature of Illinois, made in January 1852. The governor, after speaking of the immense trade and rapid growth of the city of Chicago, goes on to state, that "the same has been the history of the region of country penetrated by the Illinois river—since the opening of the canal flourishing towns are lining its banks at every few miles distance, and are furnishing producers a ready and profitable market.

"This river being the connecting link between the Mississippi and the great chain of lakes, much care has been taken to ascertain its commerce as near as may be; the following table is believed to contain as near an approximate as can be obtained, still I am satisfied it is below the true amount." The governor then gives a table of the towns and amount of commerce of each town on the canal and Illinois river, and concludes on this subject as follows: "The total amount of commerce on the Illinois river and canal for the year ending November 30, 1852, was \$42,345,000; number of steamboats from St. Louis and other points as high up as Peoria in same time 1,608; a large amount of trade on this route is carried on by canal boats and barges, towed by steamboats. Connected with this I may mention the fact that the arrival of steamboats at St. Louis during the past year have been between three and four thousand, and it is estimated by reliable judges that at least one-third are employed in carrying the products of Illinois."

I have no doubt myself that the estimate made by the governor at that time is far below the true amount now, but anything like an approximate to the amount cannot be given by me with my present information.

It will be seen, however, upon an inspection of the commercial report of the city of Saint Louis, of the first of January, 1854, that the trade of the Illinois river is of much more importance to that city than that of either the Missouri or upper Mississippi rivers.

Your obedient servant,

GEORGE A. DUNLAP,
United States Agent.

To Lieut. Col. J. E. JOHNSTON,

Sup. W. R. Improvements, Louisville, Kentucky.

OFFICE OHIO RIVER IMPROVEMENTS,
Louisville, September 1, 1854.

SIR: I have the honor to submit my second annual report on the state and progress of the "Improvement of the Ohio River, including the repairs of Cumberland dam," together with an estimate for the further prosecution of the work for the ensuing fiscal year.

My receipts and expenditures for the year commencing July 1,

1853, and ending June 30, 1854, on account of this service are as follows, viz:

Receipts.

Balance on hand July 1, 1853.....	\$5,492 10
Remittance from United States Treasury, August 10, 1853.	10,000 00
Do. do. do. 30, do.	13,000 00
Do. do. September 15, do.	15,000 00
Do. do. October 5, do.	14,000 00
Do. do. November 16, do.	2,800 00
Do. do. December 27, do.	3,200 00
Do. do. January 21, 1854.	2,000 00
Total received.....	<u>65,492 10</u>

Expenditures.

Amount expended 3d quarter, 1853.....	54,401 13
Do. 4th do. do.	6,485 98
Do. 1st. do. 1854.....	1,860 48
Do. 2d. do. do.	752 50
Total expended.....	<u>63,500 09</u>
Balance on hand, June 30, 1854.....	<u>1,992 01</u>

At the date of my last annual report the snag boat, No. 5, (Terror,) the crew having been discharged, was lying in ordinary at Louisville, undergoing some repairs and necessary alterations, and in readiness to take advantage of the first rise in the river to enable her to pass the falls and to operate in the lower Ohio. From that time till early in November the boat remained in port, no opportunity presenting for a safe passage across the rapids. On the 10th the river having commenced rising, part of a crew was shipped, and the boat was employed in removing obstructions in the vicinity of the steamboat landing at Louisville, until the 18th, when she was enabled to pass over in safety.

The complement of officers and men was then completed, and in charge of Captain John K. Dillingham she commenced her voyage down the Ohio, removing all obstructions attainable at that stage of water. On the 5th of January, 1854, the river being very high and filled with ice, the boat was temporarily laid up at the mouth of Green river. On the 11th of the same month, a heavy rain having dispersed the ice, the boat was again started, but after removing two snags the weather turned extremely cold, the rigging becoming so frozen as to render it impossible to work the boat, and she was again laid up. On the 5th of February, the river being at flood height, and over its banks, with no prospect of an early resumption of operations, I discharged the officers and crew, and laid the boat up in charge of a custodian.

The amount of work done by the Terror during this short season is as follows :

83 snags raised and removed.

9 logs removed from bed of river.

12 roots and stumps blasted and removed.

4 sunken flat boats raised and removed.

153 impending trees felled.

Some of the work done was very heavy, one large sycamore snag in Hurricane island chute required four days constant labor to remove it.

On the 22d February, the Terror was turned over to Lieutenant Colonel Johnston, Topographical Engineers, for service in the Arkansas river.

Cumberland dam.

On the first of September, ultimo, I reported the work at this locality as being prosecuted with vigor by the contractor, Mr. R. Swan. On the 20th of the preceding month (the date of the last report received from the supervisor) 17,659 tons of stone had been deposited along the line of the dam ; on the 24th September, I was constrained to suspend the work for want of adequate funds ; to complete it 31,521 tons of stone had been deposited by the contractor up to that date ; this amount, however, only proved sufficient to close the V or gap permanently, to raise the dam between the V and the bar at the head of Cumberland island to the required height, to extend the dam on the dry bar about 120 yards, and partially to elevate the portion of the dam between the V and Dog island.

The work remaining to be done consists in furnishing the portion between the V and Dog island, and in extending the dam along the dry bar to the head of Cumberland island, a distance of about five hundred yards, which will require, in all, about fifteen thousand tons of stone.

My report of the 4th October last explains the reasons why so much larger an amount of stone is required to complete the repairs than called for by the original estimate, and to which I take leave to refer.

The effect of this work, although but partially completed, has been already to open an uninterrupted low-water communication with the Cumberland river, via the Kentucky chute, at the head of the island ; through which, at the date of the survey in 1848, no water whatever passed ; but, on the contrary, a sand-bar, elevated some two or three feet above the low-water surface of the river, occupied the whole chute.

At the foot of the island, however, much difficulty has been experienced by boats in effecting a passage out to the old channel. The sand at the head, which has been cut out by the increased volume of water forced the chute by the dam, was deposited at and near the foot by reason of the spreading of the water towards the Illinois shore. I have already suggested that a jetty be constructed, extending downwards from the lower point of Cumberland island a sufficient distance to remedy this evil. From my present knowledge of the locality, I am of the opinion that it would require from eight to ten thousand tons of stone for this jetty. A careful examination and survey will be made

during the present month, on the results of which I will be enabled to make a detailed report and estimates.

During the present season of unusually low water, the channel on the Kentucky side of the island, throughout its entire length, is navigable for all boats that can approach it, either from above or below. I have, as yet, heard of no boats grounding there, while we have daily reports of their detention on other bars in the vicinity; and I feel confident, that whenever the dams shall be completed, the obstructions to the low-water navigation of this locality will be totally removed.

The dredge-boat Gopher operated very successfully in the chute at the head of the island; at the foot her operations were very much impeded, and at times rendered impracticable, by the grounding of steamboats, directly where her services were most needed.

On the 22d October, by order of Lieutenant Colonel J. H. Long, then superintendent of western river improvements, the dredge-boat, with the scows, &c., pertaining to the same, was turned over to the agent for the improvement of the Illinois river, in whose charge she still remains.

During the present year I have made reconnaissance of the different localities on the upper Ohio, at which works have been commenced, and in some cases completed, for the improvement of the numerous shoals in that part of the river. Of the beneficial effects resulting from these works, even in their unfinished state, frequent reports have been made to the bureau, and I deem it unnecessary now to recapitulate them.

There is one locality, however, deserving special mention, viz: that of Captina island, which was formerly the shoalest point below Wheeling, and, in fact, considered the head of low water navigation.

In 1838, Major John Saunders, corps of engineers, then superintendent of the Ohio river improvements above the falls, caused a dam to be built across the Virginia chute of the island, to throw an increased volume of water down the Ohio side, and by this means to work out a portion of the gravel bar, and to deepen the channel. The result proved the complete success of the method of improvement; the new channel was of sufficient depth to permit the free passage of any boats that could reach it from points either above or below, and has not only proved thus far beneficial to the navigation, but has been of permanent utility till within one year. From natural causes, assisted perhaps by interested parties, (not unusual on the upper Ohio,) several large breaches have occurred, through which a large portion of the river has again found its way, thereby reproducing the shoal in the channel, and rendering the navigation difficult. On my visit to this locality in June last, at a three feet stage of the water, there was eight inches less water in the channel than at Buffington's or any other shoal-bar below. Boats were either compelled to lie up at this point, or to lighten over. During the immediate repair of this dam, required by the exigencies of the case, I have caused the breaches to be filled, so far as the limited means in my possession warranted. The repairs were completed a few days since. About eighteen hundred tons of stone were placed in the dam—sufficient to stop the passage of water through the Virginia chute—although

probably not enough to render the dam as perfect as when first completed.

The construction of the several other works, as reported by me on the 1st September last, remains about the same as at that date. Buffington's island still offers one of the most serious obstructions to the navigation above Cincinnati, and Warsaw bar below. A detailed estimate for the repairs and completion of these works (with the exception of Warsaw bar) has already been presented, under date of May 3, 1854, to which I take leave to refer.

The river being now at a suitable stage, I propose to make an examination and survey of Warsaw bar immediately, the report and estimate for which will be duly forwarded.

My report, drawings, and estimates, for the improvement of Marietta harbor and vicinity, made by direction of the topographical bureau, were forwarded on the 7th November last, to which I would respectfully refer for information on the subject.

The snag-boat Terror, which has been employed in removing obstructions on the Ohio river, is not suitable for its purpose, being much too large and of too great draught. A light draught steam snag-boat, with a single hull, and of such dimensions as would enable her to be passed through the locks of the Louisville and Portland canal, will be required for this service, together with a machine-boat, worked by manual labor, to accompany and co-operate with the same, and designed to operate on the edges of channels and on bars beyond the reach of the steam snag-boat.

The same objection, viz: that of too great draught, applies to the dredge-boat Gopher. The dredging apparatus of this boat performs admirably, but the weight of the machinery for propelling her through the water, together with that of the water-wheels, guard, &c., is so great as to make her draught exceed the maximum depth in the low-water channels. A dredge-boat can be worked to great advantage on this river, and I shall submit an estimate for the construction of one of light draught, and suitable for this service.

The works designed for the improvement of the Ohio river are of such a character, being combined with dredging, snagging, &c., that no estimate can be made of the amount required for the completion thereof.

In submitting the following estimate, for the ensuing fiscal year, I ask only for an amount that can be judiciously expended during the year, and one which I trust Congress will have no hesitation in allowing.

Estimate.

For the completion, repairs, and preservation of works on the upper Ohio, as per detailed estimate of May 3, 1854.....	\$115,000 00
For the completion of the works at Cumberland island..	30,000 00
For snagging, dredging, and other improvements, not included above.....	40,000 00
For contingencies, say.....	5,000 00
Amount required.....	<u>190,000 00</u>

To which may be added an estimate for the construction and outfit of boats particularly adapted to this river.

For 1 light draft snag-boat, complete.....	\$20,000 00
For 1 machine-boat, complete.....	3,000 00
For 1 dredge-boat with scows, complete.....	14,000 00

Amount for construction.....	37,000 00
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Respectfully submitted,

CHARLES A. FULLER,

U. S. agent and engineer Ohio river improvements.

Col. J. J. ABERT,

Chief Topographical Engineers, Washington, D. C.

OFFICE WESTERN RIVER IMPROVEMENTS,

Keokuk, September 9, 1854.

SIR: Your letter of August 1st, calling my attention to the annual report to be made, was duly received. I have been somewhat delayed in obtaining certain information called for by you, and I have now the honor to submit the following report:

In the month of April 1853, I was appointed by the Secretary of War, United States agent for the improvement of the Des Moines rapids of the Mississippi.

I reported for duty immediately to Lieut. Col. Long, who, by order of the 1st of June, directed me to co-operate with Captain J. Barney, United States agent, and Lieut. G. K. Warren, Topographical Engineers, in the survey of the Des Moines and Rock River rapids, in order to determine the best and the most economical channel of improvement.

In consequence of ill health and other reasons, I did not participate to any considerable extent in execution of the surveys, and they were completed, and the maps, drawings, and report, were submitted by Lieut. Warren.

I concur generally in the views of the work as expressed by Lieut. Warren; but my experience in the work already shows that his estimated quantity of excavation is not sufficient, for the reason assigned by him, the necessity of removing the whole of each stratum of stone, when only a portion might suffice for the required depth. One-third might be fairly added to his estimates of quantity.

As soon as Lieut. Warren had completed the surveys and maps of the "Lower and English Chain" of the Des Moines rapids, to which the appropriation confined the expenditure of money, I advertised thirty days for bids to contract for the execution of the work.

Upon opening the bids on the 20th day of November, no satisfactory bids were found, and they were accordingly declined.

On the first day of February you ordered me to repair to Louisville to effect a contract, if possible, with parties offering to do the work.

A very favorable contract was obtained with Messrs. Robert Swan & Co., of Alleghany city; they having agreed to remove all the ob-

structions to navigation which might be required, for the sum of \$5 85 per cubic yard of rock removed.

They were delayed in their preparations for the work, and about two months in the spring of very low water was lost.

They, however, completed their arrangements and commenced the work at the first low water of August, and have prosecuted it with energy and success, but they have not employed as many hands, nor worked on as many points as I intended.

The effect already produced by the work on Campbell's chain, places the efficacy and practicability of the plan beyond a question of a doubt.

I will now proceed to answer your inquiries in the order they are put, as near as practicable.

1. Estimate of the entire cost of the channels through the rapids.....\$1,500,000 00
2. The amount that can be expended profitably next year 200,000 00
3. Nearest port of entry at which any revenue is collected is St. Louis. Amount of revenue collected to January 1st..... 289,260 44
Amount collected for the month, August, 1854..... 102,648 60
4. Amount of work done up to this date, about 850 cubic yards.
5. Amount of commerce and navigation to be benefitted.
A low estimate of the value of produce and merchandise passing over the rapids annually.....35,000,000 00
Extent of navigation to be benefitted, 2,000 miles.

There are about forty steamboats employed in the trade over the rapids. They will average about two hundred tons freight to the trip, and they make about fifteen trips per year.

There are also about thirty "lighters" employed in transporting freight over the Des Moines rapids, and each trip of the lighter will cost the steamboat about fifty dollars.

Thus the additional cost on freight over the rapids, including the cost of delays and damages to steamboats, may fairly be set down at five hundred thousand dollars per annum.

It will require at least six of the most favorable seasons to accomplish the whole of the work contemplated.

The labor will be applied at most difficult points first, so as to relieve the navigation as much as possible until completed.

From the facts I have stated, no one can fail to see the commercial importance of improving the rapids of the Mississippi, flowing through a country unequalled in fertility, unequalled in the rapidity of population; unsurpassed in the energy, industry, and productiveness of the population, it would be difficult indeed to calculate the increased commerce and the increased importance of the work twenty years hence.

Very respectfully, your obedient servant,

JOHN G. FLOYD, *U. S. Agent.*

Lieut. Col. J. C. JOHNSTON,

Top. Eng., Sup't W. R. improvements.

APPENDIX F.

OFFICE OF BOARD OF ENGINEERS,

LAKE HARBORS AND WESTERN RIVERS.

Washington, February 18, 1854.

SIR: I am instructed by the Board to make the following report in relation to the plan and estimate for improving the harbor of Sodus bay, Cayuga county, New York, proposed by the superintending engineer, Brevet Colonel Turnbull, of the corps. A plan and estimate for the work was made by the same officer in 1845, but on the 17th September, 1853, he informed the bureau that the entrance had so changed since the time of the original survey, it would be useless to undertake the work on the plan first proposed, and he therefore suggested the propriety of making new surveys and plans for the site—these having been executed under the authority of the bureau, furnish the subject of the present report.

Although the plans proposed in 1845 differ from those now recommended by him, a careful study of them will shew that they have a general conformity of design; for the changes now proposed by Colonel Turnbull are mainly changes of detail, such as are necessarily suggested by the alterations which have taken place in the form of the shores since 1845, and by his more certain knowledge of the danger to which the beach, separating the bay from the lake, is exposed during the high stages of water.

The propriety of defending the beach had already been admitted by the Board, and an estimate for it was inserted in the general annual estimate.

Colonel Turnbull, however, suggests the substitution of a rip-rapping or deposit of shingle, instead of a row of piles, as proposed in the general estimate, and this substitution the Board approves, because of its greater economy and durability.

The works now proposed for the navigable entrance to the harbor, are in effect the same as those proposed in 1845; only that it is not deemed to be certainly *necessary* to carry the parallel piers, forming the entrance, to so great a distance into the lake as was contemplated at the time of the original plan.

In conclusion, the Board has very respectfully to advise the bureau to approve of the plan now proposed by Brevet Colonel Turnbull, for the improvement and protection of the Sodus bay, Cayuga county, New York.

It may be well, nevertheless, to remark, that while the Board sees no objection whatever to the proposed direction of the piers near the shore, it apprehends that it may possibly be found expedient to give to the outward end of the west pier a greater cant to windward. This idea is predicated upon the assumption that the greatest storms at this place proceed from the northwest. The *precise bearing*, however, that should be given to the outermost cribs, can be determined only after matured and critical observation, continued for a longer time than it has

been possible yet to give to the direction and effect of the storms at the particular locality.

Very respectfully, I have the honor to be, your obedient servant,

JAMES KEARNEY,

Lieut. Col. Top. Eng., Pres't Board.

Colonel J. J. ABERT,

Chief of Bureau Topographical Engineers.

Respectfully recommended to be approved.

J. J. ABERT,

Colonel Corps Topographical Engineers.

This plan is approved only so far as the necessary work can be completed with the means at the disposal of the department, or supplied by parties interested, for their own benefit. No work will be undertaken that will require further appropriations by Congress to complete it or render it effective.

JEFFERSON DAVIS,

Secretary of War.

WAR DEPARTMENT, *February 25, 1854.*

OFFICE BOARD OF ENGINEERS,

LAKE HARBORS AND WESTERN RIVERS,

Washington, February 21, 1854.

SIR: In relation to the subject of Captain Macomb's letter of the 17th instant, referred to this Board, I have very respectfully to make the following explanation: Captain Macomb states that an important item for the proper conducting of the lake survey has been omitted in the estimates published by Congress—namely, the estimate submitted by him, of \$50,000, for a new iron steamer; the reasons for providing which are given in his annual report to the bureau. The Board replies to this, that the annual report and estimates of Captain Macomb were dated at Detroit the 25th October last, and that the annual estimates of this Board were reported to the bureau on the same day, viz: the day limited for such reports, and that hence they had passed out of its hands before the estimates of Captain Macomb could have been known to it.

The Board, while occupied with its estimate for the survey of the lakes, had before it the estimates of Captain Macomb for the preceding year. It had statements of the annual cost and progress of the work for several other preceding years, and it had also the especial experience of one of its members, who had directed the work in the field. With the help of these elements, the Board was enabled to estimate, with sufficient precision, the probable sum required for the ordinary service of the coming year—the only service that the Board had in contemplation when it framed the estimate, as will appear by reference to the Senate's printed copy of the President's annual message, part 3, page 196.

Immediately upon Captain Macomb's annual report reaching the bu-

reau, it was referred to this Board. But the Board having already reported the annual estimates, it did not feel itself warranted in re-opening the subject with reference to any of its details, the subject had passed out of its hands. Nevertheless, the Board deemed the item for the new steamer, proposed by Captain Macomb, of such importance to the due progress of the survey of the lakes that it ought to be kept in view—and for this reason, with the permission of the bureau, it added to its own item for the survey of the lakes the remark which will be found in the document already referred to, namely, the remark that the “estimate does not include the cost of an additional steamer.”

The Board does not hesitate to recommend an appropriation of \$50,000 for a new iron steamer for the survey of the lakes. The one now upon that service has been in use some nine or ten years, and has rendered good service to the work. Vessels employed upon this kind of duty are exposed to severe usage; they are frequently aground, and are more liable to be damaged than are vessels employed in commerce. The Board, therefore, does not doubt that the steamer belonging to the lake survey must, by this time, require very extensive repairs, and it is of opinion that they ought to be authorized.

The Board is of opinion also, that there ought to be more than one vessel, of suitable tonnage, employed upon the work; because, while in deep soundings and upon dangerous coasts, the work requires the full service of a steamer to carry it on, with safety to the operatives and with the requisite dispatch—and, above all, indispensably for the astronomical and geodetic part of the work, another should be provided for carrying supplies and conveying orders to, and in transferring from place to place parties that may be operating at points very remote from each other, as they often are, even now, and as they will be, to a much greater extent, when the work will have reached Lake Superior, as it is reasonable to expect it will ere long.

I subjoin, for the information of the bureau, a copy of Captain Macomb's letter of the 17th instant, also, an extract from Captain Macomb's annual report, and a copy of the item of the Board's annual estimates, to which he refers.

I have the honor to be, respectfully, sir, your obedient servant,

JAMES KEARNEY,

Lieut. Col. Top. Eng., Pres't Board.

Colonel J. J. ABERT,

Chief Bureau Topographical Engineers.

BUREAU OF TOPOGRAPHICAL ENGINEERS,

Washington, March 15, 1854.

SIR: In consequence of failure on the part of contractors to deliver materials at Milwaukie, no pier work has been put up there, and as there was adequate time, the Board was desired to revise the plan for the improvement of that harbor.

The law on this subject, quoted by the Board, expressly directs the appropriation then made “to be expended at a point of the Milwaukie river known as the ‘North Cut,’ surveyed by Lieut. Center.”

This survey was made in 1836, and will be found printed as Senate document, No. 173, 2d session 25th Congress.

The estimate of this survey is.....	\$92,184
The appropriation of 1852 was for.....	15,000

Leaving as a further amount to be supplied.....	<u>77,184</u>
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The revised estimate of the Board is for.....	59,525
Appropriation of 1852.....	15,000

Leaving as a further amount to be supplied.....	<u>44,525</u>
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The reduction in the estimate of the Board arises chiefly from stopping the piers at twelve feet lake water instead of extending them to fourteen feet, and in dispensing with the pier heads, both of which variations are in accordance with our experience in such structures.

The Board has also considered the necessity and propriety of repairing what is usually called the old pier work—that is, the pier work at the old entrance—for which the Board has submitted an estimate of about \$10,000.

Fully agreeing with the views of the Board, it is recommended that the plan be approved.

On consulting with the Board, the following order and mode of performing the work is recommended:

First. That the work should commence at the north pier, which should be extended to the desired length, or nearly so, before the southern pier is begun.

Second. That in the extension of the southern pier care and observation should be observed, which may probably lessen its proposed length, the object being to insure an entrance of not less than twelve feet between the piers.

Third. That each pier, at its origin with the shore and extension into the lake, should not be less than twenty feet wide, and should be raised, for deck or platform surface, not less than five feet above ordinary level of lake water.

Fourth. That no excavated material should be used as pier ballast, or be thrown upon the piers.

Fifth. That in decking or flooring the piers, plank three inches thick, and not more than six inches wide, be used, and be laid not nearer than two inches of each other.

Sixth. I am clearly of opinion (in which opinion the Board unites) that the two entrances should be preserved, and that no obstruction or hindrance to either should be erected.

Seventh. Great labor and care have been bestowed upon the plan for this harbor. I am not disposed to think that any lake harbor has received more.

Respectfully, sir, your obedient servant,

J. J. ABERT,

Colonel Corps Topographical Engineers.

HON. JEFFERSON DAVIS,
Secretary of War.

The \$15,000 appropriated by Congress must be expended upon the north cut in the manner most conducive to the object to be obtained, without reference to any appropriation hereafter.

JEFFERSON DAVIS,
Secretary of War.

WAR DEPARTMENT, *April 6, 1854.*

BOARD OF ENGINEERS, LAKE HARBORS AND WESTERN RIVERS,
Washington, March 4, 1854.

SIR: I am instructed by the Board to make the following report in relation to the improvement of Milwaukie harbor:

The appropriation for the work (August 30, 1852) is in the following words, viz: "For continuing the improvement of the harbor of Milwaukee \$15,000, to be expended at the point on the Milwaukee river known as the 'North Cut,' surveyed by Lieut. Center."

There have been various other sums appropriated, from time to time for the improvement of Milwaukie harbor—these have been applied to the old, or natural entrance of the river.

Also, the Board has had heretofore before it, for investigation, the "subject of the position of the Milwaukie piers," and it has reported that, in its opinion, the existing outlet of the Milwaukie ought to be adhered to.

This opinion the Board still holds, and believing it to be possible, also, to keep open the north cut—to maintain the navigable bed of the river below that cut, and to improve the old outlet at the same time—it has to propose, with that view, the construction of the usual parallel piers of timber and stone for the "north cut," at the point indicated in the report of the local agent, of September 22, 1853.

The in-shore end of these piers to have the form and position least liable to interrupt or disturb the existing currents at the position, nearly, which is shown in the drawings which accompany this report.

The piers to bear N. 81° E., to extend 800 feet into the lake to 12 feet depth of water, and to be 20 feet wide and 260 feet apart.

The agent ought to be enjoined not in the least to encroach upon the channel of the river. Moreover, the Board has indicated approximately, by dotted red lines upon the drawing, near the upper and lower entrance, the limits beyond which incroachments upon the stream or upon the land ought not to be permitted, without the express sanction of the bureau. Supposing, however, that any injunction to this effect, directed to the property-holders near the proposed improvement, would be nugatory, if proceeding from the authority of the United States alone, the Board has very respectfully to suggest that the city authorities of Milwaukie be notified of the expediency of some legal enactments respecting the boundary, or border, of the river, within its corporate limits, and the same as to the State authority, beyond the city limits, and also respecting individual encroachments upon the piers and the approaches to them.

Accompanying this report is an estimate of the cost of the works proposed. It does not include, however, the cost of any works for the re-

gulation of the currents inside of the piers, except so far as the indications of such an intention is shown upon the maps; and, moreover, it does not include the cost of any dredging, or other process of deepening the channel of the river, the item in the estimate for dredging being limited to the work necessary to connect the navigation of the lake with that of the river.

But I have very respectfully to say, that the Board anticipates the probable necessity of the occasional employment of a dredger, but to a limited extent, in order fully to insure the maintenance, or the perfecting, of the navigation of the channel of the lower portion of the river, or that part of it that lies between the present outlet and the proposed cut.

This part of the improvement, however, as it lies inside of the harbor, will, probably, fall to the lot of the city of Milwaukie, to execute.

In connexion with the general subject of the improvement of the harbor it may be proper to state, that the works, at the present outlet, require repairs, and the annexed estimate for that object is derived from Major Bache, a member of the Board, who inspected the work last summer.

The Board has had for its guide the chart of 1853, (No. 2,) upon which was projected the plans of H. W. Gunnison, esq., the local agent for that year; but it ought to remark that this chart differs from the charts made in 1844 and 1845, not only in the soundings, where changes might be reasonably anticipated, but in the form of the shores, near the proposed "cut," where we should look for some degree of permanency, or, at least, where the actual form of the shores is of great importance, and where that form should be exhibited with a considerable degree of precision.

Owing to this want of agreement of the charts, the Board has deemed it advisable to submit a copy of that of 1845, as well as that of 1853, with the plans of the proposed work projected upon it, so that the one which best conforms to the actual figure of the ground may be used in laying out the works.

The direction given to the piers, although it does not exactly fulfil all the conditions that could be wished, is, nevertheless, not at all seriously objectionable.

The choice of the direction given to them, namely: N. 81° E. was dictated by the fact that the proposed work, lying in the bottom of an open bay, which receives the storms nearly equally from the NE. and SE. points of the compass, forced the Board to adopt, for the direction of both the piers, the one which should enable both of them to receive the storm at angles similar to each other, whether they come from the NE. or SE.

- It has been usual to give to the windward pier, in a structure of this kind, a greater extension than that of the leeward pier, so as to afford protection to vessels as they enter. In the present case, it is doubtful whether either of them is the windward pier. For this reason, therefore, both piers have an equal length, and the windward one may at

any time be lengthened, if, in fact, either of them should prove to be a windward pier.

Respectfully submitted.

JAMES KEARNEY,
Lieut. Col. Top. Eng., Pres't Board.

COL. J. J. ABERT,
Chief of Bureau Topographical Engineers.

Estimate for building piers at the North Cut at Milwaukee, Wisconsin, viz:

2 piers each, 800 feet long, 1,600 feet, and 20 feet wide to a depth of 12 feet water—	
24 pine side pieces, 12 feet by 12, 31 feet long, 744 feet, at 10 cents	\$74 40
12 pine centre stringers, 12 feet by 12.....360.....do.....	36 00
36 pine ties, 12 feet by 12, 20 feet long.....720.....do.....	72 00
8 bottom timbers, 12 feet by 12, 30 feet long...240.....do.....	24 00
730 pounds 1½-inch round iron for bolts, 3 inches long, 4½ cents.....	32 85
42 cords of stone, at \$6.....	252 00
Carpentry and labor	45 00
	536 25
54 cribs, 30 feet long, at \$536 25	28,957 50
80,000 board measure 3-inch pine plank, at \$14	1,120 00
1,334 pounds 6-inch spikes, at 7½ cents.....	100 05
	30,177 55
116,380 cubic yards of dredging, at 12½ cents	14,547 50
	44,725 05
Contingencies, 10 per cent.....	4,472 50
	49,197 55

Estimate for protecting the sides of the North Cut at Milwaukee.

North side of cut 190 feet in length, of crib work, 10 feet high and 12 feet wide; 395 in length of piling—	
30 side pieces, 12 feet by 12, 31 feet long, 620 feet, at 10 cents	\$62 00
30 ties, 12 feet by 12, 12 feet long.....360.....do.....	36 00
5 bottom timbers, 12 feet by 12, 30 feet long, 150 feet, at 10 cents.....	15 00
20 cords of stone, at \$6	120 00
318 pounds 1½-inch round iron for bolts, 3 feet long, at 4½ cents.....	14 31
Carpentry and labor	25 00
Cost of one crib.....	272 31
6 cribs, at \$272 31	1,633 86
5,863 board measure 3-inch pine plank, at \$14	82 08
163 pounds 6-inch spikes, at 7½ cents.....	12 22
Cost of crib work north side of cut.....	1,728 16

ESTIMATE—Continued.

395 square oak piles, 25 feet long, 9,875 feet, at 12 cents	\$1,185 00
44.....do.....20.....do..... 880.....do.....	105 00
790 in any lengths, not less than 30 feet, for stringers, at 12 cents.....	94 80
44 ties.....do.....12 feet long, 528 feet, at 12 cents	63 36
1,036 pounds 1½-inch round iron for bolts, at 4½ cents.....	466 20
Carpentry and labor	700 00
	2,314 36
Crib work	1,728 16
	4,042 52
Contingencies, 10 per cent.....	404 25
	4,446 77

Estimate for the repairs of the old piers at Milwaukee.

North pier 925 feet long, (500 feet 24 feet wide,) 425 feet 20 feet—	
13,875 running feet, 12 feet by 12, pine timber, in any lengths not less than 30 feet long, for side pieces and centre stringers, at 10 cents.....	\$1,387 50
6,000.....do.....do.....in lengths of 24 feet, for ties, at 10 cents	600 00
4,200.....do.....do.....do.....20.....do.....do.....	420 00
6,775 pounds 1½-inch round iron for bolts, 3 feet long, at 4½ cents.....	304 87
30,000 feet, board measure, 3-inch pine plank, in lengths of 24 feet, \$14.....	420 00
21,250.....do.....do.....do.....20.....do.....	297 50
798 pounds 6-inch spikes, 7½ cents.....	59 85
100 cords of stone, \$6	600 00
Carpentry and labor	800 00
	4,889 72
Contingencies, 10 per cent.....	488 97
Cost of repairs to north pier.....	5,378 69

MILWAUKIE.

Repairs south pier, 650 feet long—	
9,750 running feet, 12 feet by 12, pine timber, in any lengths not less than 30 feet long, for side piers and centre stringers, at 10 cents.....	\$975 00
3,000.....do.....do.....in lengths of 20 feet, for ties, at 10 cents	300 00
3,150.....do.....do.....do.....18.....do.....do.....	315 00
4,664 pounds 1½-inch round iron bolts, 3 feet long, at 4½ cents.....	209 88
27,500 board measure, 3-inch pine plank, at \$14.....	385 00
542 pounds 6-inch spikes, at 7½ cents.....	40 65
100 cords of stone, at \$6	600 00
Carpentry and labor	600 00
	3,425 53
Contingencies, 10 per cent.....	342 55
Cost of repairs to south pier.....	3,768 08
Cost of repairs to north pier.....	5,378 69
	9,146 77

ESTIMATE—Continued.

South side of cut 150 feet in length of crib work, 10 feet high and 12 feet wide, 660 feet in length of piling—	
5 cribs, at \$272 31	\$1,361 55
4,269 board measure 3-inch pine plank, at \$14	64 80
139 pounds 6-inch spikes, at 7½ cents	10 42
	1,436 77
660 12 feet by 12, oak piles, 25 feet long, 16,500 feet, at 12 cents	1,980 00
86.....do.....do.....20.....do.....1,640.....do.....	196 80
1,320.....do.....in any lengths not less than 30 feet, at 12 cents	158 40
86.....do.....in ties, 12 feet long, 1,032 feet, at 12 cents	123 84
2,026 pounds 1½-inch round iron for bolts, at 4½ cents	91 17
Carpentry and labor	1,350 00
	3,900 21
Crib work	1,436 77
	5,336 98
Contingencies, 10 per cent.	533 69
	5,870 67

RECAPITULATION.

Cost of piers, (outside)	\$49,197 55
Protection north side of cut	4,446 77
Protection south side of cut	5,870 67
	59,524 99

BUREAU OF TOPOGRAPHICAL ENGINEERS,

Washington, April 13, 1854.

SIR: I have the honor to submit a report of the Board of Engineers, in reference to the harbor of Chicago.

The Board recommends the use of the dredge boat upon the outer bar, and on similar service inside the pier heads or pier ends.

The entrance channel at that place, which requires this aid, is usually known as the northern channel. It is this channel and the outer bar at its entrance to which the Board has reference.

The Board also recommends attention to the repairs required for the security and preservation of the existing works. These matters have been already to some extent attended to, as the only work done on these piers since the appropriation of August, 1852, has been in making repairs. It is supposed therefore that but little under the head of repairs will be required to be expended.

The report of the Board is considered partial, or preliminary, in order to avoid any unpleasantness, at the time which the final revised report of the Board will require. The harbor and works there were inspected by a member of the Board during the last season. His illness since his return has prevented his giving a personal attendance to the meetings of the Board, which is highly desirable before the final report is made out.

But in reference to the preliminary measures now advised, all of the Board agree, and also the undersigned.

The amount of the appropriation for Chicago is..... \$20,000 00
Amount expended 763 46

Leaving unexpended..... 19,236 54
which amount will much more than meet the views of the Board.

In using the dredge, certain officers will have to be appointed, as captain and mate, a manager of the steam engine, assistants, firemen, laborers, and probably a pilot. In order to save pernicious delay, it is respectfully recommended that these matters be left to the discretion of the superintending engineer. In the present case it will be Lieutenant Colonel Graham, whose orders require him to be at Chicago by the 20th inst.

Respectfully, sir, your obedient servant,

J. J. ABERT,
Col. Corps Top. Engs.

Hon. JEFFERSON DAVIS, *Sec. of War.*

Approved:

JEFFERSON DAVIS.

WAR DEPARTMENT, *May 6, 1854.*

BOARD OF ENGINEERS, LAKE HARBORS AND WESTERN RIVERS,
Washington, April 11, 1854.

SIR: I have the honor to report, respecting the harbor of Chicago, that the information in the possession of the Board is not such as to enable it to prepare a final plan and estimate for the work. Meanwhile, the Board has very respectfully to suggest to the bureau the expediency of employing the dredge boat at Chicago, in deepening the channel over the outer bar, and in such other service, inside of the pier heads, as it may find to be expedient and necessary for facilitating the ingress and egress of vessels. It has also to recommend to the early attention of the bureau the repairs required for the security and preservation of the existing works.

Very respectfully, I have the honor to be, sir, your obedient servant,

JAMES KEARNEY.

Lieut. Col. Top. Eng., Pres't Board.

Colonel J. J. ABERT,
Bureau Top. Eng.

BUREAU OF TOPOGRAPHICAL ENGINEERS,

Washington, April 10, 1854.

SIR: I have the honor to submit the revised report of the Board of Engineers on Lake Harbors and Western Rivers, in reference to the improvement at Manitowoc.

The appropriation for this harbor, in the law of August, 1852, is for.....	\$8,000 00
Of this amount there has been drawn out.....	1,667 87

Leaving in the treasury an amount of.....	6,332 13
The report of the Board hereto appended anticipates an expenditure of.....	26,533 94
Which would leave an amount yet to be supplied of about.....	20,000 00

Fully concurring with the views of the Board in this matter, the plan is respectfully submitted in conformity with regulations.

Respectfully, sir, your obedient servant,

J. J. ABERT,
Col. corps Top. Eng.

Hon. JEFFERSON DAVIS, *Sec. of War.*

This plan is approved to be undertaken only so far as can be completed with the means at the disposal of the department, or which may be supplied by parties interested for their own benefit; no work will be undertaken that will require further appropriations by Congress to complete it or render it effective.

JEFFERSON DAVIS,
Secretary of War.

WAR DEPARTMENT, April 25, 1854.

BUREAU OF TOPOGRAPHICAL ENGINEERS,
Washington, August 4, 1854.

SIR: I have the honor to acknowledge your direction as communicated by Mr. Chief Clerk Campbell, to report upon the following points in reference to the plan for the improvement of the harbor of Kenosha, formerly Southport, of Lake Michigan.

1st point. What part of the plan is it contemplated to execute with the unexpended balance on hand?

This question being fully answered and in much detail, by a report from the Board of the 3d instant, I have the honor to submit a copy of it.

2d point. Have any assurances been received that the remaining sum, necessary to complete the plan, will be furnished by the local authorities or citizens of the place?

I am not aware of the existence of any such assurances; there are none in this office of recent date, that is, since the passage of the appropriation of August, 1852. Before that date there were intimations of this kind, and expenditures of a serious amount were actually made by the citizens of that place.

Respectfully, sir, your obedient servant,

J. J. ABERT,
Col. Corps Top. Eng.

Hon. JEFFERSON DAVIS, *Sec'y of War.*

The plan for improvement of the harbor with the balance of the appropriation is approved, it being understood, though not stated, that the work proposed will be complete in itself without any further expenditures.

JEFFERSON DAVIS,
Sec'y of War.

WAR DEPARTMENT, *August 26, 1854.*

BOARD OF ENGINEERS, LAKE HARBORS AND WESTERN RIVERS.

Washington, April 17, 1854.

SIR: I have to report, in relation to the plans and estimates for the improvement of the harbor of Manitowoc, Wisconsin, as follows:

The Board, in its report of November, 1853, (Sen. Doc. 1, 33d Congress. Appendix K,) being guided by the plans and estimates of Captain Webster, the superintending engineer, which it had not then time to revise, gave, as the aggregate cost of the work, the sum of \$32,402 42. Since then, however, Captain Webster's plan and estimates have been carefully scrutinized, and the scrutiny has resulted in the introduction of some modifications of his plan, and in a reduction of the estimate to \$26,353 94. The main difference between the two projects, namely: that of Captain Webster, and that of the Board, may be gathered from the following statement.

1. Conforming to the limits, very judiciously prescribed by the bureau, for the depth of the artificial channels of navigation on the lakes, the Board proposes to carry out the piers to 12 feet of water only, instead of 14 feet, as required by Captain Webster, thus reducing the length of the north pier to 400 feet, and of the south pier to 600 feet.

2. But the Board decides to give to those piers a width of 20 feet from the shore to their outer extremity, in conformity with the rule reaffirmed last year, respecting the width of piers. By the preliminary project of the superintending engineer, already referred to, fifteen feet was assumed as the width of each pier, on a length of 600 feet, and he proposed to add to the south pier 200 feet more of crib work, with a width of 20 feet.

3. The plan, then, which the Board has very respectfully to recommend for the improvement of Manitowoc, is to construct two parallel piers of timber and stone, 200 feet apart; the piers to be about 20 feet wide throughout, to rise 5 feet above the ordinary level of the lake in calms, and to be covered with a platform, or flooring, of 3-inch plank—the planks to be 2 inches apart; the north pier to be 400 feet long, and the south pier to be 600 feet long, and to dredge the channel.

The precise direction, or bearing of the piers, to be definitely determined on having ascertained the course of the prevailing storms at the harbor. They should make with the course of the storms an angle of some thirty degrees. For the present, the bearing assumed for the piers is S. 83° ½ E., or E. ½ S., nearly, as it is supposed, that the pre-

vailing storms proceed from the S. $52\frac{1}{2}^{\circ}$, or SE. $\frac{3}{4}$ E.—a direction which is probably near the truth.

Very respectfully I have the honor to be, sir, your obedient servant,

JAMES KEARNEY,

Lieut. Col. Top. Eng., Pres't Board.

COL. J. J. ABERT,

Chief of Bureau Topographical Engineers.

Estimate for building piers at the mouth of Manitowoc river, Wisconsin.

20 side pieces.....12 feet by 12, 31 feet long, 620 feet, at 10 cents	\$62 00
10 stringers.....do.....30....do.....300.....do.....	30 00
30 ties.....do.....20....do.....600.....do.....	60 00
8 bottom timbers.....do.....30....do.....240.....do.....	24 00
35 cords of stone, at \$7.....	245 00
650 pounds $1\frac{1}{2}$ -inch iron, at $5\frac{1}{2}$ cents.....	35 73
Carpentry and labor	40 00
One crib.....	496 75
33 cribs, at \$496 75.....	16,392 75
Machinery, dredging, &c.	5,101 72
	21,494 50
51,429 board measure 3-inch pine plank, at \$14	720 00
857 pounds 6-inch spikes, at 7 cents.....	59 99
	22,274 49
Contingencies, 10 per cent.....	2,227 45
	24,501 94

BUREAU OF TOPOGRAPHICAL ENGINEERS.

Washington, September 5, 1854.

SIR: A letter from Lieut. Col. Graham, of the 19th ult., presenting interesting views in relation to several of the harbors of Lake Michigan, was submitted to the Board, whose revised report on these harbors is now submitted to the War Department.

1st.—Manitowoc.

The Board recommended, in the approved plan, a distance between these piers of 200 feet. Lieut. Col. Graham recommends that this distance be increased to 240 feet. Agreed to by the Board, which, however, recommends that this increased distance be obtained by removing the position of the southern pier.

2d.—Sheboygan.

Lieut. Col. Graham recommends the application of sheet piling to the outer ends of the existing piers. Course approved by the Board.

3d.—Kenosha.

Lieut. Col. Graham recommends sheet piling in this case, to which the Board agrees, provided the dredging can be done at an adequately reduced rate.

The Board does not agree with Lieut. Colonel Graham in reference to the dredging inside, within the river at Kenosha. The rule or usage to which the Board refers has always governed lake harbor operations, namely: that access could be made from the lake to a harbor, by the removal of any obstructing bar, but operations inside to enlarge, or to create a harbor, are not legitimate objects of United States expenditure, and require to be specially authorized. This rule, or usage, first received official sanction of the department when under the direction of Mr. Secretary Wilkins, at the recommendation of the bureau, upon some demands about the harbor of Buffalo, New York.

But the Board is of opinion that none of the suggestions of Lieut. Col. Graham (except the last) will, as explained in the letter of Colonel Graham, and in the report of the Board, occasion any expenditure beyond the estimate of the approved plans, and all of these suggestions (except the last) were reviewed favorably by the Board.

It is therefore respectfully recommended that the revised report of the Board be approved under those restrictions.

The following are the directions of the department in reference to these several works, namely:

Manitowoc. This plan is approved, to be undertaken only so far as can be completed with the means at the disposal of the department, or which may be supplied by parties interested for their own benefit. No work will be undertaken that will require further appropriations by Congress to complete it, or render effective.

JEFFERSON DAVIS,
Secretary of War.

WAR DEPARTMENT, *April 25, 1854.*

Kenosha. Colonel Abert will report what part of the plan it is contemplated to execute with the unexpended balance on hand, and whether any assurances have been received that the remaining sum necessary to complete the plan will be furnished by the local authorities or citizens of the place.

By direction of Secretary of War.

A. CAMPBELL, C. C.

WAR DEPARTMENT, *August 2, 1854.*

The required report having been made, the following direction was given:

The plan for improvement of the harbor with the balance of the appropriation is approved, it being understood, though not stated, that the work proposed will be complete in itself without any further expenditure.

JEFFERSON DAVIS,
Secretary of War.

WAR DEPARTMENT, *August 26, 1854.*

Sheboygan. The plan recommended is approved so far as the same can be carried into effect with the funds at the disposal of the department.

JEFFERSON DAVIS,
Secretary of War.

Respectfully, sir, your obedient servant,

J. J. ABERT,
Col. Corps Topographical Engineers.

Hon. JEFFERSON DAVIS,
Secretary of War.

Approved: subject to previous limitation.

JEFFERSON DAVIS,
Secretary of War.

WAR DEPARTMENT, *September 18, 1854.*

OFFICE BOARD OF ENGINEERS,
LAKE HARBORS AND WESTERN RIVERS,
Washington, May 18, 1854.

SIR: In the letter of Brevet Lieut. Col. J. D. Graham, superintending engineer, Lake Michigan, of May 10th, relative to the harbor of Manitowoc, referred to this Board, is found the following passages.

"Upon the plan furnished by the Board of Engineers, the direction for the piers is laid down and marked in writing as north $85\frac{1}{2}^{\circ}$ east magnetic. In the text of the instructions of the Board, however, the course is stated at south $83\frac{1}{2}$ east, or east $\frac{1}{2}$ south nearly, shewing a discrepancy of eleven degrees in the direction between the text and the drawn plan. I have laid the work out in conformity with the drawing, that is to say, upon a course of north $85\frac{1}{2}^{\circ}$ east *magnetic*, and beg to be informed if this is correct. If any change is required it can easily be made before the materials can be delivered for beginning the work."

In reply to this, I am instructed to state that a clerical error has crept into the text of the report quoted by Lieut. Col. Graham. In writing out the instructions in reference to the direction proper for the piers, it was the desire of the Board, as it was without precise information of the course of the prevailing storms at Manitowoc, to express itself in general terms only, that it should be determined principally by the course of these storms, with which they should make an angle of some 30° , and that it was of the opinion, as these storms are believed to proceed from the southeast point, the bearing assumed for the piers should be north $85^{\circ} 30'$, or east $\frac{1}{2}$ north nearly. If, however, the superintending engineer shall ascertain that, in fact, the prevailing storms proceed from a point different from that provisionally assumed by the Board, he should be instructed to make a corresponding change in the direction.

The Board desires, before closing, to call the attention of the bureau to two other points in the letter of Lieut. Col. Graham, namely, the

proposition to use, as gathered from the advertisement for bids to furnish materials inclosed, pine timber in the work above as well as below the level of the water, and to apply the whole number of cribs to forming the south pier. The Board is of opinion that pine timber may be employed with advantage below the surface of the water, but that above that plane the material should be hard wood. In regard to the latter point the Board would prefer, at the same time, that it acknowledges the paramount necessity for pushing out the south pier as far as possible, that some portion of the crib-work executed with the present means be applied, under the direction of the superintending engineer, in forming the north pier, and thus reap in some measure the advantage due to the flow of the water from the river.

The letter of Lieut. Col. Graham is returned.

I have the honor to be, sir, very respectfully, your obedient servant,
JAMES KEARNEY,
Lieut. Col. Top. Eng's., Pres't Board.

Col. J. J. ABERT,
Bureau Topographical Engineers.

BUREAU OF TOPOGRAPHICAL ENGINEERS,
Washington, April 21, 1854.

SIR: I have the honor to submit the report of the Board of Engineers on Lake Harbors and Western Rivers, in reference to the harbor of Sheboygan.

The views of Captain Webster, which are approved by the Board involve an expenditure (in addition to present means) of about..... \$22,000
 The amount of United States appropriation for 1852 was.... 10,000
 Of which there is now available..... 9,195

The original survey, plan, and estimate for the work was by J. M. Berrien, esq.,* in 1838. The total estimate was for \$84,900.

The expenditure of \$30,000 to which the Board refers is from local sources.

The Board recommends an accurate survey, to exhibit present condition of localities. This could be attended to by Lieut. Col. Graham, if allowed to use Gamble, agent at Waukegan, as assistant; Gamble in the meantime to draw his pay from the Waukegan fund. The survey would then cost about \$1,000, but if Gamble were paid out of the Sheboygan fund it would then cost (to that fund) about \$1,500.

Gamble is very competent to do the work under the direction of Lieut. Col. Graham.

This idea of a survey also involves the consideration, that the present report of the Board (about Sheboygan) is a preliminary report in

* Berrien had been a lieutenant of artillery on topographical duty, but was then a civil engineer in the employ of the State of Michigan.

in reference to that harbor, liable to revision when the proposed survey is made.

Respectfully, sir, your obedient servant,

J. J. ABERT,

Col. Corps Topographical Engineers.

Hon. JEFFERSON DAVIS,

Secretary of War.

The plan recommended is approved so far as the same can be carried into effect with the funds at the disposal of the department.

If the agent for another work be temporarily employed on this work he must, while so employed, be paid from the appropriation for it. The department has no authority to accept the cession of jurisdiction over the piers erected by the town or other corporate authorities.

JEFFERSON DAVIS,

Secretary of War.

WAR DEPARTMENT, June 23, 1854.

OFFICE OF BOARD OF ENGINEERS,

LAKE HARBORS AND WESTERN RIVERS,

Washington, April 17, 1854.

SIR: The subject of the improvement of the harbor of Sheboygan having been laid by the bureau before the Board, I am instructed by the Board to make the following report thereon.

The present harbor was constructed under authority of the State of Wisconsin, by the harbor commissioners of the town and county of Sheboygan, and consists of two parallel piers of 1,000 feet, 175 feet apart. These piers are formed of pile-docking for 400 feet, to the line of the lake shore, and thence by crib work for 600 feet to 10½ feet water into the lake, at the present stage. The cost of these works, including dredging to 12 feet water, it is understood, has been \$30,000.

In the memoranda that accompany the annual estimate from this office, dated November last, the considerations which influenced the Board in recommending the sum of \$11,000 for the fiscal year ending the 30th of June, 1855, for this work are in these words:

“The superintending engineer, Captain J. D. Webster, Topographical Engineers, in his annual report of September 1, says of this harbor: ‘The work cannot be considered complete without the addition of 700 feet to the piers put down by the county and town authorities.’

“The cost of this extension he estimates at..... \$26,936 00

“He also provides for strengthening the present crisis..... 3,064 00

“Amount..... 30,000 00

“From which he deducts (supposed) available of late appropriation..... 8,000 00

“Leaving to be provided..... 22,000 00

which, for some, at least, of the considerations which have governed

in other cases, the Board recommends may be divided into two seasons, by an appropriation of the amount asked for in the margin, namely, \$11,000.

The superintending engineer states in the same report that "this extension would be an average depth of 15 feet;" and although this depth exceeds the depth, to wit, 12 feet, deemed by the Board the least to which all similar works on the lakes, to be efficient, should extend, yet, in view of the discrepancies that exist between the report and maps before the Board, it did not hesitate to adopt the recommendation in question, believing the extension named would fall short of the length ultimately required. These discrepancies, which it was found impossible to reconcile, are as follows:

The agent says: "The further extension of the piers 240 feet will extend the works into 12 feet water," whereas, taking his own map as authority, it will require 1,012 feet to reach that depth; and, taking that of Lieutenants Center and Rose of 1836, but 175 feet. Again, the superintending engineer gives 700 feet for the extension of the piers, or 350 feet for each, bringing them into 15 feet, whereas the map first mentioned indicates that it would require 1,125 feet, and the second map 375 feet, to reach that depth.

The position and direction of the present piers nearly conform with those drawn on the survey of Lieutenants Center and Rose, dated in 1836. The only important difference is, that the latter calls for a channel way between the piers into the river of 200 feet, whereas the former is only 175 feet wide. The plans, with this single exception, indeed, are identical. Any extension of the present piers may, therefore, be regarded as an extension of the original design, considered as unfinished, and that whenever they reach the proper depth the design is completed. In reference to such an extension, the superintending engineer holds the following language: "I see no way of carrying on the work except, as intimated, of adding to the piers already existing. But I submit that it will be proper for the county and town authorities to cede all their rights and jurisdiction over the present work to the United States." In this opinion the Board fully concurs. It is also of opinion that this extension should, as suggested by Captain Webster, be 20 feet wide, the cribs having open bottoms, instead of close ones, as called for by the contract under which the present works were constructed; and that the jog in the alignment of the piers caused by this increased width be on the outside, leaving the interior lines flush. The Board would remark, that the jog on the outside may be avoided, indeed, by putting the desired increased width, five by an oblique line, all in the first crib. It is likewise recommended that the entire work have a uniform height above the level of the lake by raising the 400 feet of each pier at the shore end, where, from the lesser depths, the surf necessarily rises highest.

In reference to the relative lengths of the two piers, the superintending engineer says: "I think we are not yet in possession of data on which to decide how to apportion the additional 700 feet between the two piers. It does not seem quite certain which of the two can be said to be the windward pier, or from which direction the main drift is to be expected. If there be any difference, it will now soon appear,

although it is certainly less marked than at most of the other ports on the lakes. However this may turn out, not less than the amount indicated of pier work will be necessary." The uncertainty on this point is confirmed by the notes of a member of the Board in the examination of this harbor, which state that "the drift appears equal about north and south." On the other hand, the map furnished by the agent indicates, by the accumulation filling up the mouth of the original river north of the piers, and the corresponding dispersion of sand south of them, that the drift is from the north. Nevertheless the board thinks the question of relative length of the piers should be left open as dependent on the effects of the present piers through a longer period of time. This experience will probably prove that the drift is from the north, and that as a consequence the north pier should be the longer of the two.

It will be seen from the foregoing remarks that the Board approved of the course of operations recommended by the superintending engineer, Captain Webster. The cost of carrying them out received also the sanction of the Board in its last annual estimates, and was only divided into two sums from the impression that no larger amount would likely be obtained. As economical and engineering questions, however, the Board does not hesitate to express the opinion that the entire amount should be available at one time.

The Board, in conclusion would respectfully recommend, in consideration of the discrepancies in the present maps, and between them and the reports to the bureau, already referred to, that a survey be made of the locality and surrounding waters, out to the three fathom line of the lake.

The following papers are herewith returned. The annual report of Mr. D. Newland, agent, dated September 1, 1853. A sketch of his survey of the harbor, and a tracing of the mouth of Sheboygan river, from the survey of Lieutenants Center and Rose, dated in 1836.

I have the honor to be, sir, very respectfully, your obedient servant,

JAMES KEARNEY,

Lieut. Col. Top. Engs., Pres. Board

Col. J. J. ABERT,

Bureau Topographical Engineers.

BUREAU OF TOPOGRAPHICAL ENGINEERS,

Washington, May 1, 1854.

SIR: I have the honor to submit, in conformity with regulations, the revised plan of the Board of Engineers on Lake Harbors and Western Rivers, in the reference to the harbor of Racine on Lake Michigan.

The amount of the plan of the Board is.....	\$18,956 30
The value of materials on hand and of available funds..	7,251 78

Leaving a balance yet to be provided of	<u>11,704 52</u>
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This amount is the estimate of the Board to complete work at that harbor, in conformity with existing plans.

Respectfully recommended to be approved.

Respectfully, sir, your obedient servant,

J. J. ABERT,

Col. Corps of Topographical Engineers.

Hon. JEFFERSON DAVIS,
Secretary of War.

The plan is approved. The work to be commenced, however, must be only such as can be completed with the means at the disposal of the department, or supplied by parties interested for their own benefit. No work is to be undertaken that cannot be completed, or that will require further appropriations to render it effective.

JEFFERSON DAVIS,
Secretary of War.

WAR DEPARTMENT, *May 26, 1854.*

OFFICE BOARD OF ENGINEERS,
LAKE HARBORS AND WESTERN RIVERS,
Washington, April 20, 1854.

SIR: I am instructed by the Board to make the following report on the harbor of Racine, Wisconsin, elicited by the letter of the mayor of the city, of the 6th ult., to the bureau, and laid by it before the Board.

In the report of the 25th June last, on the letter of Mr. J. A. Carsewell, agent of this harbor, dated the 30th of the previous month, the board expresses the opinion that the repair of the piers ought to be undertaken at once, and that for the reasons given by the agent pine timber might be used with advantage for all work under water, reserving for future decision the question of the prolongation of the piers until the Board should be in possession of additional information deemed necessary to elucidate the subject.

The prolongations proposed were to extend the south pier 150 feet on the present line, and the north pier 96 feet in original direction, or parallel to the first.

The subject of this harbor again came under the notice of the Board on preparing the estimates for the fiscal year ending the 30th of June, 1855. The annual report of the superintending engineer then before it, states that "the agent in charge of this work recommends adding 224 feet to the north, and 352 feet to the south pier, and to change the direction of the north pier in a curve towards the south. Of this change I approve, both for the reasons given by the agent, and also for others which have been briefly stated in the remarks on Chicago. The estimated amount required to complete the work is \$17,454 94, which is certainly very moderate, and ought rather to be increased than diminished.

This sum the Board understood, from the phraseology, to be the entire sum necessary to execute the work, and accordingly adopted it after

deducting the balance yet deemed available from the current appropriation for the estimate. It would seem, however, from the report itself of the agent, now before the Board, that this amount was in addition to the "balance of appropriation and value of materials remaining after repairing present piers and paying indebtedness," a sum the Board, as the question of the extension of this pier had not been decided upon, would have hesitated to recommend. With this explanation the Board will now submit its views in regard to the future operations.

Two conditions, as a general rule, have been adopted by the Board for piers projected from the mouth of rivers into the lakes: First, that they shall extend to twelve feet water at least; that the depth being necessary to accommodate the trade; and second, that they shall be on lines parallel to each other to secure the full effect of any *scower* from the waters of the river above. The relative lengths of the piers is a third point, and depend, in the opinion of the Board, upon the peculiarities of each locality, as the direction of the drift, the course of the most violent storms, &c. A plan, so far as the first two conditions are concerned, is thus one of easy application to any locality. In regard to the third, beyond the mere point that the windward pier should be the one of the greater length, the question can only be settled approximately, leaving the precise relative proportion dependant upon the effects produced during the progress of the operations. In the case of the harbor of Racine, the question of the proper proportioned lengths of the piers is further complicated; as, from the report of the agent, it would seem that the waves reflected from the inner line of the south pier renders the anchorage in the river above uneasy, notwithstanding the north pier, considered as the windward pier, extends out beyond, or overlaps it 180 feet.

In this fact the Board finds another reason for not defining precisely the relative lengths of the piers.

The direction given in the first instance to the pier was due east, or about a point and a half south, of a line perpendicular to the shore, which at this part of the lake trends about N. 17° W. (Center & Rose, 1836.) The entire south pier, 530 feet in length, has been constructed on this course. Of the north pier, 240 feet have the same direction. It then flares towards the north on a course N. $82^{\circ} 30'$ E. for 145 feet, and again N. 77° E. for 245 feet, its present termination. (Carsewell, October, 1853.) By this arrangement the channel which at first is but 160 feet wide, increases at the head of the south pier to 195 feet. (Carsewell, October, 1853.) The question now arises, in complying with the conditions already laid down, namely, of extending the works to twelve feet water, and making them parallel, whether they shall be carried out on the original line, that is, a due east line, or the line of the outer portion of the north pier, or about N. 77° E., were the questions dependant alone upon the movement of the drift, the Board would have no hesitation in adopting the latter; as in that case the northeast winds, considered as the violent winds, would strike the pier at a smaller angle than the same winds strike the shore—a condition, in the opinion of the Board, necessary to give the proper direction to the drift, which would otherwise pass close round the head of the north pier and be deposited in the mouth of the harbor.

But the exposure of the entrance between the piers to the direction of the most violent winds should also be considered. This exposure becoming greater as the line of the piers inclines towards the north, were the line favorable as regards drift adopted, the inconvenience now complained of in the uneasy character of the anchorage in the river, over and above the inconvenience which would be felt from the same cause by the adoption of the line of south pier, or the original direction, would in so much be continued. The difference in this respect on the extension of the north pier into twelve feet water, whether the first or second direction be taken, would be equal only to the substance of the angle the two lines form with each other, or about forty feet; a length of protection the effect of which would not be sensibly felt in lessening the roll of the sea into the river. Under this view of the subject the Board respectfully, recommends in the further extension of the works, the adoption of the line of the outer portion of the north pier. The Board would likewise recommend that the extent of the south pier be limited for the present by a NNE. line drawn from the head of the north pier, founded in twelve feet water. These conditions give an increased length of one hundred and seventy-five feet to the north pier, and two hundred and sixty-five feet to the south pier; the former standing out in the lake one hundred and forty feet beyond the latter; whereas the present difference is two hundred and thirty feet—a difference less favorable, it is thought, to secure the full benefit of the flow of the waters from the river above.

The construction of the piers for four hundred and forty feet, as above, with the necessary machinery and dredging, will cost \$18,663 70. (See detailed estimate annexed.) Taking the cost of machinery from this amount, and also from the balance now available in money and materials, as common to either measure, the means at disposal will construct one hundred and sixty-five feet of the pier-work, and do a proportional amount of the dredging. This length is equal to the length of five and a half cribs. Of this number the Board recommends that three cribs, or ninety feet, be added to the south pier, and two cribs, or sixty feet, to the north pier; leaving the half crib length, or fifteen feet, to be divided among the whole, if the timber on hand shall admit of it.

A tracing of the map of the harbor by Mr. Carsewell, the agent, showing the extension of the piers, as suggested by him and approved by the superintending engineer, and the extension as recommended by the Board, with the portion of each that may be accomplished with the present available means, is herewith submitted in illustration of the foregoing report.

The letter of the mayor of Racine is returned.

I have the honor to be, very respectfully, your obedient servant,

JAMES KEARNEY,

Lieut. Col. Top. Eng., Pres't Board.

Col. J. J. ABERT,

Bureau of Topographical Engineers.

RACINE HARBOR, WISCONSIN.

Estimate for extending the north pier 175 feet, and the south pier 265 feet, in all 440 feet, to 12 feet water.

PIERS TWENTY FEET WIDE.	
Estimate for 1 crib, 30 feet long, complete—	
31 side-pieces, 12 by 12, 31 feet long, 992 feet, at 14 cents.....	\$138 88
16 stringers, 12 by 12, 30 feet long, 480 feet, at 14 cents.....	67 20
46 ties, 12 by 12, 20 feet long, 920 feet, at 7 cents.....	64 40
8 bottom timbers, 30 feet long, 240 feet, at 14 cents.....	33 60
60 cords of stone, at \$6	360 00
900 pounds 1½-inch iron, at 6 cents	54 00
Carpentry and labor.....	60 00
1,583 feet, board measure, pine plank, at \$12 per M.....	19 00
27 pounds 7-inch spikes, at 7½ cents.....	2 02
	799 10
14⅔ cribs, say at \$800.....	11,733 00
1 crane, scow and apparatus for same	300 00
Tools and implements.....	100 00
Hire of scows.....	100 00
Dredging 22,500 yards, at 16 cents.....	3,600 00
Compensation of agent, one year, at \$120 per month.....	1,400 00
Amount.....	17,233 00
Contingencies, 10 per cent.	1,723 00
Total amount.....	18,956 30
Estimated amount of balance of present appropriation, and value of materials remaining, after repairing present piers, and paying indebtedness.....	7,251 78
Amount required to complete the harbor as now proposed.....	11,704 52

JAMES KEARNEY,
Lieut. Col. Top. Eng.. Pres't Board.

OFFICE BOARD OF ENGINEERS, LAKE HARBORS AND WESTERN RIVERS,
Washington, April 20, 1854.

BUREAU OF TOPOGRAPHICAL ENGINEERS.

Washington, May 16, 1854.

SIR: I have the honor to submit the report of the Board in reference to Clinton Harbor on Lake St. Clair.

The first appropriation (1852) was \$5,000 of which \$300 have been drawn out for making the desired survey and investigations, leaving undrawn in the treasury \$4,700.

And, from the report, the additional sum of \$5,500 will be required to complete the improvement according to the plan now submitted.

Respectfully, sir, your obedient servant,

J. J. ABERT,

Colonel Corps Topographical Engineers.

Honorable JEFFERSON DAVIS,
Secretary of War.

WAR DEPARTMENT, *June 22, 1854.*

So much of the plan is approved as can be executed with advantage, with the appropriation or other funds available for the work.

JEFFERSON DAVIS,

Secretary of War.

OFFICE BOARD OF ENGINEERS,

LAKE HARBORS AND WESTERN RIVERS,

Washington, May 5, 1854.

SIR: The bureau having called the attention of the Board to the plan and estimate for the improvement of Clinton river, Michigan, submitted by Captain Canfield, Topographical Corps Engineers, superintending engineer, under date of the 22d of September last, I am instructed to present the following report thereon.

The plan of Captain Canfield contemplates the dredging of a channel 100 feet wide, for a depth of nine feet from the river through the obstructed portion of the channel as at present, to the same depth in the lake, between two parallel lines of close piling, 150 feet apart, for so much of the distance as require excavating for three feet. This distance he sets down at 1,200 feet, making the length of the piling 2,400 feet. The estimate for carrying out this plan is as follows:

For a close piling for the sides of the cut, where the dredging is three feet deep, 2,400 piles, 12 feet long, at 75 cents each.....	\$1,800 00
Driving 2,400 piles, at 20 cents each.....	480 00
Dredging 21,958 cubic yards, at 12 cents per yard.....	2,634 96
Cost of horse pile driver.....	900 00
	5,814 96
Add for contingencies, 5 per cent.....	290 74
	6,105 70
Present appropriation.....	5,000 00
Required.....	11,105 70

The plan, as described above, the Board approves, with the single exception of limiting, as proposed, the close-piling, which it is of opinion should extend throughout the entire length of the cut, 2,400 feet, laid down on the survey as the distance from nine feet in the river to nine feet in the lake. This change, it will be remembered, was recommended in the considerations which influenced the Board in naming the sum required for this river in the coming fiscal year, and in so much increased the estimate over that furnished by Captain Canfield. The Board, at the same time, considered it advisable further to augment the amount by the compensation of a local agent for the immediate charge of the operations, not before provided for, by the increase of the per centage for contingencies from 5 to 10 per cent., as usual, and finally

by considering but \$4,700 as on hand from last appropriation, \$300 having been consumed by the survey. Under these changes the estimate will be as follows:

4,800 piles, 15 feet long, at 75 cents each.....	\$3,600 00
Driving 4,800 piles, at 20 cents each.....	960 00
Dredging 21,958 cubic yards, at 12 cents per yard.....	2,634 96
Cost of horse pile engine.....	900 00
Compensation of agent one year.....	1,460 00
	9,554 96
Contingencies, 10 per cent	955 49
Total amount.....	10,510 45
Balance of present appropriation.....	4,700 00
Amount required.....	5,810 45

which, agreeably to the rule adopted by the Board to take the nearest, \$500, was increased in the list of the annual estimates to \$6,000.

A tracing of the original survey of the mouth of Clinton river, illustrative of this report will be found herewith.

I have the honor to be, sir, very respectfully, your obedient servant,

JAMES KEARNEY,

Lieut. Col. Top. Engs. Pres't Board.

Col. J. J. ABERT,

Bureau Topographical Engineers.

BUREAU OF TOPOGRAPHICAL ENGINEERS.

Washington, May 22, 1854.

SIR: I have the honor to submit the report of the Board, in reference to the harbor of St. Joseph's, of Lake Michigan.

The appropriation for this harbor, in the law of August, 1852, was.....\$10,000 00

Of this, there was drawn out.....8,709 00

Leaving a balance undrawn of.....1,291 00

Refunded by Captain Webster.....347 88

Leaving in the treasury.....1,638 88

The view and plan of the Board contemplate an additional expenditure of.....36,523 52

From which it will be perceived that existing funds will fall short.....34,884 64

unless an additional appropriation should be made, for which there is an estimate before Congress for about \$18,000. The unexpended

balance of \$1,638 88 would do so little to the work that it had, I think, better be preserved for pay to some one to take care of the property and for occasional repairs.

Respectfully, sir, your obedient servant,

J. J. ABERT,

Colonel Corps Topographical Engineers.

Hon. JEFFERSON DAVIS,

Secretary of War.

Where small balances, as in this case, remain unexpended, the fund had better be turned over to the officer in charge of the district, for repairs, and the property be stored or otherwise disposed of as to relieve the government of the expense of a custodian.

JEFFERSON DAVIS,

Secretary of War.

WAR DEPARTMENT, June 21, 1854.

OFFICE OF BOARD OF ENGINEERS,

LAKE HARBORS AND WESTERN RIVERS.

Washington, May 5, 1854.

SIR: The subject of the improvement of the harbor of St. Joseph, Michigan, having been laid by the bureau before the Board for consideration, I am directed to report thereon as follows:

A full report of this harbor was made by the local agent of the United States, Mr. John R. Bowes, on the 29th November, 1852. It describes the natural features of the mouth of St. Joseph river; the plan, progress, and the then condition of the works forming this improvement, and recommends the repair of the injuries sustained by them and the extension of the south pier. With the reasonings and recommendations generally of the agent, as detailed in his report, the Board fully concurs. A copy of this report, and the accompanying diagram, exhibiting the state of the works, is appended hereto.

It now only remains for the Board, in conclusion, to reiterate its views in regard to this harbor, as embodied in so much of its proceedings in making estimates for the fiscal year, ending June 30, 1855.

“For continuing the improvement of the harbor of St. Joseph, Michigan, \$18,000.”

“In the annual report on this harbor, dated September 19th, of the present year, (1853,) the agent says: ‘The operations of this improvement for the present season have been directed exclusively to repairing its two piers—the completion of which will nearly, if not entirely, exhaust the present appropriation.’ This appropriation is \$10,000.”

“Again he says: ‘After these repairs are finished, to perfect the improvements of this harbor, a further extension of the south pier will be required,’ and he recommends six hundred feet as a maximum length; still leaving the north pier standing further out in the lake by 275 feet, which, as the windward pier or the one against which the drift at this point accumulates, should have the greater length. In the above views of the agent the Board concurs. His estimate for the extension is

\$36,523 52; but as it would call for the construction, putting in position and finishing off of twenty cribs, of thirty feet, in a single season, the Board deems it advisable, particularly in view of the size of the estimate, to confine the operations, at the present, to lengthening the pier for half that distance—namely, 300 feet—which, assuming the same rate per lineal measurement again in the estimate, would require an appropriation of \$18,262, or say, as in the margin, \$18,000.”

I have the honor to be, sir, very respectfully, your obedient servant,

JAMES KEARNEY,

Lieut. Col. Top. Engs., Pres't Board.

Col. J. J. ABERT,

Bureau of Topographical Engineers.

BUREAU OF TOPOGRAPHICAL ENGINEERS,

Washington, June 7, 1854.

SIR: I have the honor to submit a report of the Board of Engineers on Lake Harbors and Western Rivers, in reference to the harbor of Sandusky, and fully agree with the Board in its report—namely, that attention should, for the present, be exclusively bestowed in the repair of the breach, as indicated in that report.

Respectfully, sir, your obedient servant,

J. J. ABERT,

Colonel Corps Topographical Engineers.

Hon. JEFFERSON DAVIS,

Secretary of War.

Approved:

JEFFERSON DAVIS,

Secretary of War.

WAR DEPARTMENT, *June 20, 1854.*

OFFICE OF BOARD OF ENGINEERS,

LAKE HARBORS AND WESTERN RIVERS,

Washington, May 15, 1854.

SIR: The Board, by instructions from the bureau, having had under consideration the letter of Mr. Patterson, agent of the United States, for the harbor of Sandusky, enclosing a memorial from the business men of that city, dated March 20, 1854, asking that the balance of the moneys now in hand, after closing the breaches in Peninsula Point, (except the wide or main cut,) may be expended in deepening the channel. I am directed in relation thereto to make the following report:

On referring to the record of the proceedings of the Board of April 11, 1853, the following entry is made, viz: “According to information recently furnished by the local agent at Sandusky, it appears that the breaches in the peninsula have lately increased in depth and width, and that the degradation of the neck is proceeding very rapidly; and,

moreover, that it will require the whole of the appropriation to secure all that part of the peninsula that lies east of the principal breach. The Board is of opinion that the filling up of the four smaller breaches, and the protection of the neck, requires prompt attention, and that this work should be undertaken and completed in preference to any other at this time."

The annual report for the season of 1853, of the superintending engineer, Captain Stansbury, in whose district Sandusky lies, contains the following in reference to this harbor.

"From the report of the local agent for this work, which has been transmitted to the bureau, it appears that for the protection of Peninsula Point, a pier, consisting of rough crib work filled with stone, for closing the four small breaches referred to in the recommendation of the Board, has been constructed on the point, two thousand six hundred and fifty-seven (2,657) feet in length, to serve as a breakwater against the action of the lake, which was rapidly wearing it away, and threatened to destroy it altogether. The construction of this work has been attended with the happiest results. The sand has rapidly accumulated on both sides of the pier, and from present appearances, the experiment promises to realize our expectations to their fullest extent. The test of winter, however, has yet to be undergone, before the work can be pronounced to be entirely safe."

There has been expended upon the work, out of the appropriation of \$15,000 of August, 1852, the sum of \$11,867, and there remained on hand, at the close of the 1st quarter of 1854, a balance of \$3,133, and it is to the application of this balance the present report has reference. The business men of Sandusky state that the citizens have expended, in dredging, about \$30,000, and have thereby very much improved the navigation, which is known to have been very crooked; in some places narrow, and in others to have quite a limited depth of water. They state also that the fund set apart for that purpose is nearly exhausted, while the condition of the channel is not entirely such as it should be to accommodate the commerce of the port. They further remark, that they deem it only just that the balance of the appropriation that now remains, after repairing the breaches on Peninsula Point, except the wide or main cut, which still remains open, should be expended in perfecting the work hitherto done by an onerous tax upon the property of the city; and they offer the use of their dredger, &c., to the government, if it should, as they request, determine to assist with the balance of the appropriation in straightening, widening, and deepening the channel.

The local agent, in a letter forwarding the application of the business men of the city, recommends a compliance with their request, and says, "that of the sum on hand no other use could be made with the money which would be so much benefit as a full concurrence in the recommendation of the annexed letter." These letters having passed through the hands of Captain Stansbury, he takes occasion to say that he concurs "in the opinion that it would be useless with the means at command to make any attempt to fill the cut between Peninsula Point and the main shore, as it is entirely inadequate," that cut or breach being about 3,000 feet long.

With this opinion of Captain Stansbury the Board agrees; but it is of opinion that claims upon the present balance of the appropriation even more pressing than the improvement of the channel, may arise, and of these, one may be found in the paramount necessity of giving to Peninsula Point all the protection the present means of the bureau may warrant.

Since the date of the letters from the local agent and the business men of Sandusky, the Board is informed through a report from Captain Stansbury, of April 26, that "on the 13th of that month a gale sprung up on the lake which continued four days. It was almost unexampled in duration and severity," and of the injuries in detail resulting to the various works under his superintendence. He states also that he has received a report from the agent at Sandusky harbor, in which, speaking of Peninsula Point and the work which had been so successfully executed last year at the four small breaches, for the filling in and defence of which that work was designed, he says: "I have this day made an examination of the work under my charge at this place, and find that by the late unprecedented gale from the northeast little damage was done to the work. Two places on the east end of the crib have settled down to nearly the surface of the water, and will require to be repaired. In view of the fact that the entire length of the work was submerged for more than forty-eight hours, and that it stood the shock of the sea, having the whole length of the lake to accumulate in, with a gale of wind, said to be the heaviest ever known here, I am inclined to think we may regard the crib work on Peninsula Point as no longer an experiment, but reality, and calculated to answer fully the purposes for which it was built."

"At the west end of the crib work, as finished by me last fall, the water has broken through the point, making a clear breach about fifteen rods wide. This breach I deem it absolutely necessary should be stopped, and therefore I recommend that the repairs to the present crib work should be done, and the same extended down the point a sufficient distance to stop the new breach made by the late gale."

In reply to this letter, Captain Stansbury says: "I have directed Mr. Patterson to commence the repairs at once, and also to take measures to close the breach made by the late storm. I shall visit the work in the course of this week, and report its situation to the bureau. The damage to the work will require all the funds on hand for its repair, and will, of course, supercede the necessity of any action upon the request of Mr. Patterson for leave to apply them to the dredging out of the channel."

This statement of the existing condition of things at Sandusky is conclusive as to the course that should be pursued. The Board agrees with the general superintendent, that the repair of the peninsula at the new breach should at once be undertaken, and carried forward to completion, or to the extent of the means at the disposal of the bureau, and that under these circumstances further action on the request of the local agent and the business men of Sandusky, for leave to apply the funds to the dredging out of the channel, is superceded.

The letter of Captain Stansbury of March 29, transmitting one from Mr. Patterson, U. S. Agent, of the 24th, covering a request from

citizens of Sandusky for the application of the balance of funds on account of the harbor, to dredging the channel at the entrance; and also the communication of Captain Stansbury, of the 26th ult., in which reference is made to the same subject, are herewith returned.

I have the honor to be, very respectfully, your obedient servant,

JAMES KEARNEY,

Licut. Col. Top. Eng., Pres't Board.

Col. J. J. ABERT,

Bureau Topographical Engineers.

BUREAU OF TOPOGRAPHICAL ENGINEERS,

Washington, July 17, 1854.

SIR: I have the honor to submit the report of the Board received this day, for the harbor of Cleveland, and respectfully recommend that the same be approved, the unexpended balance of the appropriation for that harbor being adequate to meet the views of the Board.

Respectfully, sir, your obedient servant,

J. J. ABERT,

Colonel Corps Topographical Engineers.

HON. JEFFERSON DAVIS,

Secretary of War.

Approved:

JEFFERSON DAVIS,

Secretary of War.

WAR DEPARTMENT, *July 28, 1854.*

OFFICE BOARD OF ENGINEERS,

LAKE HARBORS AND WESTERN RIVERS,

Washington, May 19, 1854.

SIR: The application of the city authorities of Cleveland, Ohio, "for permission to repair a portion of the eastern pier, lying south of the southern end of the parapet wall," communicated to the bureau by Captain Stansbury, superintending engineer of that harbor, under date of the 13th instant, having been referred to the Board, I am instructed to make the following report in reply:

Captain Stansbury, in his report, states, that "the part of the wall referred to is in a most ruinous and wretched condition. The foundation has sunk, and the coping in many places now lies at an angle of from fifteen to twenty-five degrees, inclining toward the water. The inner course of stone blocks, although clamped and dowelled, has almost entirely disappeared—having been broken, torn off, and precipitated into the river. Unless something is done at once, I would not be surprised if the whole wall should tumble bodily into the harbor, and that before the end of the season.

"I confess I was no little surprised at the rapid dilapidation of this apparently solid masonry, until I accidentally learned from a man who had charge of the stone work under Mr. Stockton, the agent at the

time, the reason of the sinking of the inner face of the wall. He informed me, that when laying the lower course under the water, the blocks were lowered from cranes, by means of a lewis, until they reached the desired level; and that, whilst thus suspended, small stones were crammed in between the blocks and the old work underneath, until the interstice was sufficiently filled to afford a bed for the block. These small stones were not at all enclosed or protected in any way. The consequence was obvious. The small stones became loosened and fell out into the water, and the lower course being no longer supported, sunk under the superincumbent weight, with, of course, an outward inclination. The whole of this part of the structure is in ruins and will have to be taken up and rebuilt.

"The board of improvement, under the city council, wish to replace it with a dock of timber, appropriating the value of the stone blocks taken out toward defraying a part of the expense. This I do not think should be permitted. The whole of the east pier is now built of cut stone—and when in a state of repair, presents a face creditable to the government.

"The great mistake was in the selection of a quantity of stone entirely too soft and friable for the purpose. Above water the workmanship is excellent; and I think that the whole work should not be allowed to be marred by the substitution of wood in any part of it.

"The city is very desirous that the government should make the repairs. But this, under present circumstances, is by no means advisable or even practicable. The west pier imperiously demands every dollar of the appropriation, and contracts or engagements have been made which will consume it all. The repairs of the dilapidated portion of the east pier are not at all essential to the integrity of the harbor, whilst the reconstruction of the west pier is vital to its existence."

After some remarks on the proposition of the city authorities to extend, without interfering with the rights of the United States, the general laws governing streets over the pier in question, which, in his opinion, would have a salutary effect in protecting the public interests, the report closes as follows: "The question now is, will the government permit the city to make the repairs referred to: and if so, will it require the work to be of stone, or will it allow wood to be used. To these questions I have promised a reply, and respectfully ask the instructions of the bureau."

The Board is of opinion, that in view of the limited means available for the harbor of Cleveland, it is desirable the city authorities should undertake the repairs of the east pier, referred to in the foregoing extracts from the letter of Captain Stansbury, and that their application to effect the object be acceded to by the United States, it conceives, however, that the public interests require that the proposition be accepted only on the following conditions:

1. That the repairs be required to conform to the original plan of the pier.
2. That they be made by taking out the old work down to low water, where the injuries have this extent, and replacing the stones on a bed of biton or concrete laid below that level; the old materials being used as far as they will go, if needs be, by redressing, and any new material to make up the waste, of stone of a hard character applied to the

upper courses, at least to the coping course. 3. That the control and supervision of the repairs be in the superintending engineer of the government; and lastly, 4. With the understanding that the consent recommended as above, if granted, shall not be construed as lessening, in any degree, the right of the government of the United States in the pier, or be made the ground hereafter of any claim for reimbursement of expenses in repairing the same.

The letter of Captain Stansbury is returned.

I have the honor to be, sir, very respectfully, your obedient servant,

JAMES KEARNEY,

Lieut. Col. Top. Engs., Pres't Board.

Colonel J. J. ABERT,

Bureau Topographical Engineers.

OFFICE BOARD OF ENGINEERS,

LAKE HARBORS AND WESTERN RIVERS,

Washington, May 27, 1854.

SIR: In answer to the call of the bureau for a plan for continuing the improvement of the harbor at Cleveland, Ohio, under the present appropriation, I am authorized to make the following report:

The Board is of opinion that the means available for this harbor should be applied to the west pier, at present in a most ruinous condition, only portions of it appearing above the water. The entire length of the pier, from the present line of the lake shore, is 750 feet, which may be thus described: Commencing at the shore, which seems not to have changed at this point since the year 1839, the first 130 feet in rip-rapping, 13 to 30 feet wide, followed by an opening of 55 feet, then rip-rapping again for 210 feet, (26 to 47 feet wide,) and lastly, three rows of piles at unequal distances apart. Within the line of piles the water varies in depth from 1.7 feet inside to 7.9 feet near the outer extremity of the pier—these measurements being taken from Captain Stansbury's survey of 1853.

The character of the bottom under these soundings is not shown upon the map. We know, however, that it must be chiefly, if not altogether, of the loose stone originally employed in the work; but whether of loose stone or of the usual lake deposits, the plan which the board has to propose for the renewal and repair of the pier will not be thereby materially affected, although the presence of the stone would be desirable.

The pier, according to the original plan, was composed of vertical crib-work, about twelve feet in width. Subsequently, loose stone was deposited along the outer or lake side of the pier, forming an inclined plane, and the piles above mentioned driven. These latter measures being taken to secure the work against the destructive action of the waves.

The Board need not, at this late day, declare the opinion that this course of proceeding, so popular in the early history of the lake harbors, and so specious, was the very one, of all others, most likely to bring about the result it was designed to avert. An inclined profile for

the face of a work exposed to the batter of heavy *seas*, when a vertical face can be easily formed, meets at present with few advocates among hydraulic engineers. For the lakes, where, owing to the durability of wood under water, and the cheapness of the material, such a profile may be readily formed—it is now alone employed. This practice of rip-rapping was most emphatically condemned by the bureau in the annual report of 1839, soon after taken charge of the harbor improvements, and it was thenceforth abandoned.

The Board, then, cannot recommend the renewal of the portion of the work under consideration. The question then arises, whether the exterior slope or talus of loose stone shall be removed altogether and the crib work renewed upon the original line of pier, or whether the cribs shall occupy a line on the natural bottom of the lake, at the foot of the inclined plane. The board is of opinion that the latter course should be adopted.

This new line of cribs would have the advantage of presenting a vertical front to the sea and of annulling its force more effectually than the old rip-rapping, while owing to its position with respect to the exterior line of piles of the old work and to the loose stone, &c., inside of them, it would derive much support from the latter. As a question of construction, the proposed line of cribs offers fewer difficulties than the old line, for upon the original line it would be necessary to conform and secure the cribs to the old work, an operation the Board conceives can in no case be properly carried out. It is also of opinion, that on the score of economy, the proposed plan is entitled to the preference. With respect to the width of the cribs for the proposed line of pier, the Board, in consideration of the support the crib work would derive from the remains of the old work, recommends the use of cribs of twelve feet wide only—except at the outer end, where they should be twenty feet, and the new pier head should be made to conform to the figure which it now presents by the heads of the piles. No extension seaward, beyond the covering of crib work, should be given to the pier—the Board being of opinion, that as the requisite depth between the piers and the permanency of the shore has been maintained for many years, a further extension is not at present called for. The original purpose of the works for the improvement of the harbor of Cleveland has been attained—namely, the maintenance, at all seasons of the year, of a sufficient depth of water for the largest class of lake vessels; and this at a locality, where formerly, it is said, there was to be sometimes found little else than a dry sand bar, and this result would seem to be permanent, or it may at least be reasonably reckoned upon as long as the works are maintained in a sound condition, the desired depth of channel and the shore line having already maintained a condition of permanency for at least fifteen years.

The line of the twelve feet cribs, if occupying the entire distance from the outer end of the pier to the present shore, would be about 750 feet in length—and of the twenty feet cribs, about sixty feet of the latter cribs there would probably be two, and they would have irregular figures in the plan. The length given to the twelve feet crib-work is the maximum length, which the local engineer should have authority, at his discretion, to reduce at any point short of reaching the shore.

The pier, as now designed, together with the remains of the old pier, will then have a width (125 feet from the head of the pier) of sixty-six feet, diminishing, on the one hand, at the outer end, and on the other, at the shore, to fifty feet. The space between the line of the new work and the inner line of the old work, with the exception of that portion, probably, of the outer end, not covered by the east pier from the waves that roll in from that direction, will, in the course of a few years, be filled with the sedimentary matter of the lake, and thus further compact and secure the works. Should it be desired to form landings on the pier, this may be effected by piling along the present interior line and planking over to the new work, thus affording accommodation equal to the dimensions above given.

The Board deems it proper to say, that the recommendations contained in this report are based upon the present condition of the west pier, as exhibited on the detailed map of Captain Stansbury's survey of 1853.

A tracing of the west pier from the map, on the large scale of the recent survey, with the pier work now proposed, drawn on it in red; also, a general plan of the works is herewith submitted, as convenient to the clear understanding of the present report, also an estimate to shew that the measures recommended may be carried out with the means now available for the harbor.

I have the honor to be, sir, very respectfully, your obedient servant,

JAMES KEARNEY,

Lieut. Col. Top. Engs., Pres't Board.

Col. J. J. ABERT,

Bureau Topographical Engineers.

Estimate to reconstruct the west pier, Cleveland harbor, Ohio, agreeably to the plan of the Board of Engineers of Lake Harbors and Western Rivers, of this date.

25 cribs, 30 feet long, 12 feet wide, and 16 feet high, at \$600	\$15,000 00
2.....do.....20.....do.....do.....do.....at \$820	1,640 00
Compensation of agent, 365 days, at \$4	1,460 00
	18,100 00
Contingencies, 10 per cent	1,810 00
	19,910 00
Balance in the treasury	\$20,545 49
Balance in disbursing officers' hands April 1, 1854.....	267 26
Remitted to disbursing officers May 25, 1854, and with the above balance, or materials purchased therewith, supposed for the most part still available.....	5,000 00
Total amount available.....	25,812 75
Balance over estimate as above.....	5,902 75

JAMES KEARNEY,

Lieut. Col. Top. Engineers, Pres't Board.

OFFICE BOARD OF ENGINEERS OF

LAKE HARBORS AND WESTERN RIVERS, *Washington, May 27, 1854.*

NOTE.—The estimate, calculating the whole number of cribs as 20 feet cribs, at \$820, and adding the compensation of an agent, with the usual per centage for contingencies, would reach \$25,960, exceeding the available means but \$147 23.

Memorandum respecting Cleveland harbor.

OFFICE BOARD OF ENGINEERS

LAKE HARBORS AND WESTERN RIVERS,

Washington, July 15, 1854.

Captain Stansbury, it is understood, proposes to extend the pier forming the west side of the entrance to Cleveland harbor — feet further into the lake, or about — feet in advance of the head of the east pier, and the reason for this proposition is the protection that such extension would give to vessels rounding the western pier head during gales of wind from the westward, for it is alleged that during heavy westwardly weather the sea breaks with some violence upon the head of that pier, and that, owing to the proximity of the east pier, vessels coming from the westward are in danger of falling foul of the latter. To this it is objected that the sea breaks upon the head of the pier which is founded in twelve feet water, because of the dilapidated state of the work, and because the surface of the inclined plane of loose stones, mentioned in the report of the Board, rises above the bottom of the waves; and that inasmuch as the proposed new work would present a vertical front to the sea in deep water, we would no longer have reason to apprehend the presence of breakers there. Moreover it is known that the great storms here do not always proceed from the westward, but on the contrary that they frequently blow from the northeast, the *prevailing winds* coming nevertheless from the westward. Now, if such be the case, the reasons that favor an extension of the west pier are equally favorable to and call for an extension of the east pier, with a view to the safety of vessels attempting the entrance when coming from the east during heavy gales from the eastward.

If the facts on which this view of the subject are founded prove to be correct, we are unavoidably led to the conclusion that as there is already a sufficient depth of water at the entrance, neither of the piers should be prolonged for the purpose mentioned in the beginning of this note, nor with the view of deepening the channel. As to the question of the prevailing winds and great storms, we have the testimony of the lake navigators, and the evidence derived from the sand which has accumulated against the piers on each side of the structure landward, and we find from these the verification of the fact that the storms at Cleveland come from the eastward as well as the westward.

Undoubtedly there will be always some care required in making the harbor in stormy weather (either easterly or westerly) for the width between the piers is only two hundred feet, and somewhat hazardous in the case of vessels that do not answer their helm quickly, or of those which happen to be carelessly or unskillfully managed, to attempt the passage in a storm. This want of room between the piers is now beyond remedy, but already intimated, the danger by which vessels are threatened in entering will very probably be altogether or very nearly obviated by applying to them the principles of construction which the Board has had occasion so often to advocate, namely, the vertical form of the profile, with a plain continuous surface, or one as

nearly so as practicable, extending from the top of the pier to the bottom of the greatest waves, or to some manageable depth below them.

J. K.

BOARD OF ENGINEERS,
LAKE HARBORS AND WESTERN RIVERS,
Washington, July 12, 1854.

SIR: In relation to the plan of improving the navigation between Lake Huron and the Sault St. Marie, Michigan, referred to this Board, I am instructed to report that having carefully examined the charts embracing this portion of the lake surveys, now in the bureau, together with the correspondence of Captains Macomb and Scammon in relation to the same, the Board has seen reason for adopting the views of the subject presented by Captain Scammon in his letter of June 7, 1854, a copy of which is hereto annexed, and has accordingly the honor to submit the annexed estimate of the cost of carrying the same into effect.

Very respectfully, I am, sir, your obedient servant,

JAMES KEARNEY,

Lieut. Col. Top. Engs., Pres't Board.

Col. J. J. ABERT,

Bureau Topographical Engineers.

Estimate of the cost of improving the navigation between Lake Huron and the Sault St. Marie, (Michigan,) viz:

Dredging in the channel on the westwardly side of Lake George in order to command the requisite depth and width (600 feet wide and 12 feet deep) throughout the channel, 22,222 cubic yards, at 15 cents per yard.....	\$3,333
Establishing channel marks, buoys, landmarks, &c., along the channel of Lake George, and along the Neebish rapids, say	2,167
Superintendence and contingencies.....	1,500
JULY 12, 1854.	7,000

DETROIT, June 7, 1854.

SIR: In obedience to your orders of the 16th ultimo, I have been to Lake George and the East Neebish, River St. Marie, and have the honor to submit the following report, viz: I. I find the water at the south end of Lake George *thirteen inches* lower than when I made the survey of last year. But this difference is not constant throughout the lake, although it is, perhaps, as nearly so as the difference in the direction of the wind, at the time when the soundings were made, could lead us to expect. Ex. qr. Last year the water on a certain rock in place, at

the head of the Neebish, was *twenty* inches deep ; this year it is but *seven*. Last year there was a depth of *eight feet* on the bar at the head of the British, or eastern channel, while this year there is *seven-and-a-half*.

The western channel of Lake George is as nearly like that given by the survey of last year as the difference in the stages of water could exhibit on making the more minute soundings of the present year. It is of ample width, say *two thousand feet*, for the greater part between the nine feet curves ; and nowhere less than seven-and-a-half feet for the same width, except at a point midway between its two extremities, where the channel can safely give but seven-and-a-half feet, with a width of some 500 feet. But this part is not of more than 200 feet extent in the direction of the channel, and the bottom is of mud, to the depth of three feet. I ventured, therefore, to take the steamer E. K. Collins, Captain Jones, through this channel, although perfectly aware that, from my ignorance of steamboat navigation, I could not do so without the risk of touching on one or other banks, or upon some small mounds of mud covered with sand, that form a kind of "middle ground" near the southwestern extremity of the channel. I would however remark that in the only difficult part of the passage no serious obstacle was encountered, and where the boat *did* touch upon the smooth bottom (for there are no rocks on the west side of the lake) there was, in fact, a channel on either side of over two fathoms.

The examination just finished confirms the opinion which I expressed in a former report, that the west side of Lake George offers the only channel perceptible of such permanent improvement as can satisfy the requirements of the rapidly-increasing commerce of the River St. Marie.

1. Because it is three times wider than the old channel.

2. Because the current is very slight on this side of the lake, and comparatively rapid on the other ; leading to the conclusion that the process now going on, of filling up, on and above the bar of the British channel, will continue, while the western or American channel remains unchanged.

3. Because the bottom of the western channel is mud, guarded by clay banks, rendering the work of dredging both certain and permanent ; while the east channel presents *quicksand* under a coating of sand and hard clay.

4. The eastern channel is completely within the territory of Canada, while the western lies wholly within that of the United States.

For these reasons, I think there can be no doubt as to the point where the improvements so necessary to the commerce of Lake Superior should be made.

Besides the dredging required to clear the channel, it will be necessary to have small permanent beacons, at its upper, lower, and middle points, when its navigation will be as easy as that of the Detroit.

II. On a careful examination of the East Neebish, I find the western channel all that my map of last year promised. It requires no improvement, since it can be safely navigated by vessels drawing anything under twelve feet. But it is requisite that permanent works should be established on shore, to guide vessels through the passage ;

for such is the rapidity of the current, that a slight error in steering would probably lead to serious disaster.

There is no doubt of its being by far the best channel, indeed the only safe one, through the Neebish.

According to your instructions I have established such marks as will enable any one to pass up and down with safety during the present season, by observing the following "sailing directions."

Vessels bound up should keep midway between the northwest end of St. Joseph's, and the southeast end of Sugar Islands, until they open a cut across the point on the northwest side of the *rapids*; thence keeping the cut open until reaching a point midway of the rapids, two white stations or signals are brought in range through a cut on the left, or port hand; thence steer for a white station on the eastern shore, and near the head of the Neebish, until the point at the northwest end of the channel is fairly opened, and then keep the middle channel until entering Lake George.

Vessels bound down should keep the middle channel until they bring two stations or signals in a cut at the lower extremity and on the right hand of the rapids in range, and then keep them in range until midway of the rapids, they come in range of the two stations on the right, at which vessels bound up are directed to change their course; thence keep the middle channel to the end of the Neebish.

I have safely conducted the steam propeller *Dart*, towing two large scows, up this channel, the steamer *Northerner* down, and the large steamer *E. K. Collins*, both up and down.

Very respectfully, &c., &c.,

E. P. SCAMMON,

Captain Topographical Engineers.

Captain J. N. MACOMB,

Top. Eng. U. S. Army, Com'g Survey of N. and NW. Lakes.

BUREAU OF TOPOGRAPHICAL ENGINEERS,

Washington, July 19, 1854.

SIR: I have the honor to submit the plan of the Board in reference to the harbor of Dunkirk, on Lake Erie.

The estimate of the Board amounts to..... \$192,600

The appropriation in reference to this harbor in the law of August, 1852, was for \$30,000; of which amount there yet remains in the treasury undrawn..... 28,310

Which leaves as yet to be provided in order to meet the plan of the Board..... 164,290

The Board supposes that six years will probably be occupied upon this work.

Respectfully, sir, your obedient servant,

J. J. ABERT,

Col. Corps Top. Eng.

Hon. JEFFERSON DAVIS, *Secretary of War.*

The Board will report a plan for expending to the best advantage the amount available for the work, including therein nothing that cannot be executed with the funds on hand.

JEFFERSON DAVIS,
Secretary of War.

WAR DEPARTMENT, *August 26, 1854.*

BUREAU OF TOPOGRAPHICAL ENGINEERS,
Washington, August 30, 1854.

SIR: I have the honor to submit the revised report of the Board in reference to the harbor of Dunkirk, Lake Erie, made in pursuance of the directions of the honorable Secretary of the 26th instant.

Respectfully, sir, your obedient servant,

J. J. ABERT,
Colonel corps Topographical Engineers.

HON. JEFFERSON DAVIS,
Secretary of War.

Approved:

JEFFERSON DAVIS,
Secretary of War.

WAR DEPARTMENT, *September 14, 1854.*

OFFICE BOARD OF ENGINEERS,
LAKE HARBORS AND WESTERN RIVERS,
Washington, July 12, 1854.

SIR: The attention of the Board of Engineers having been called by the bureau to the plans and estimates for the improvement of the harbor of Dunkirk, New York, I am instructed to make the following report in relation thereto.

The old works consists—

1. Of the west pier of 1,830 feet, extending from the west shore from a point of 1,500 feet within Light-house Point, on a course of N. 61° E. to the west channel, and is founded in all the various depths to twelve feet water.

2. The main work or breakwater, as it is generally called, lies on two courses, one E. and W. for 340 feet, the other N. 62° E. for 1,340 feet, and is separated from the west pier by the west channel, which here has a width of 425 feet, the work being founded in depths of seven to eight feet. This work, it is understood, was eventually to extend over the same shoal ground by a further length of 1,330 feet on a course N. 82° E. to the east channel nearly; and—

3. The middle or detached pier, 300 feet in length on a course N. 31° E., lying within and covering the gap between the first two described works, at the distance, at the nearest point across the channel, of 300 feet. The entire length of these works, including that part of the breakwater not constructed, is 5,140 feet.

The works of this harbor are at present in a very dilapidated condition. Of the breakwater, the tops of a few large stones on the east

end, and about a dozen piles are all that appear above water. The west pier is in the same condition, with the exception of a few piles near the shore. The head of the pier is a square of twenty-five feet, rising eight feet above the water. It is of masonry, and, though rough, is good, with the stones of the upper course cramped with iron. A light beacon of wood stands on this pier. The accumulation against the pier itself and its ruins is considerable, and is probably on the increase. The middle or detached pier is entirely gone, say four to six feet below the surface of the water. On the channel end of the ruins of this pier a day beacon, recommended by the Board, has been erected. There is also a day beacon near the west end of the breakwater.

It was erected by the New York and Erie Railroad Company on a pier thirty-three feet by thirty feet, raised six to eight feet above the water. These beacons are formed of four timbers of about thirty feet in length, rising from a base say of twenty feet, and meeting at the top; the upper half being boarded and painted, the middle or detached pier beacon, black and white; the breakwater beacon red and white.

The improvement of this harbor, together with a majority of the others on the lakes, was assigned to the bureau in August, 1838. An appropriation of \$10,000 had just been made, and had been expended in repairing and finishing the works, all of which had already been founded, and even at that early period had become greatly dilapidated. From 1838 to the present time, there have been but two appropriations for the harbor, namely: one in June, 1844, for \$5,000, the other in August, 1852, for \$30,000. The appropriation of \$5,000 for repairs of the works being wholly inadequate for the purpose, was applied to securing the head of the west pier, on which stands the beacon light. The funds last appropriated are for the most part still available.

As the views of the Board with respect to structures exposed to the waves are directly opposed to the principles involved in founding the works of this harbor, it cannot consistently recommend their reconstruction. These views have already been explained in former reports. It is necessary, therefore, on the present occasion, to revert to them only so far as to show in what respect the works in question do not conform to them. The vertical profile, it is true, is in every case adopted; but as the works are founded in depths which allow the waves to strike in the first instance upon the bottom, cutting off the oscillatory motion, and as a consequence changing it into a horizontal one, the principle on which rests the propriety of presenting a vertical face to the action of the waves is substantially vitiated.

If it be true that the vertical profile is the best for works founded in depths which admit of the free oscillatory motion of the waves, it must also be conceded, from the same course of reasoning, that in depths insufficient for the water to perform that movement the vertical profile is the worst, for the reason that it presents a face on which the impact of the waves under the change described is received with the greatest effect.

Dunkirk harbor is a bay indenting the shore line of Lake Erie to the depth of three-fourths of a mile nearly, with a breadth at its mouth of one and seven-eighths miles measured between the outer points, Lighthouse Point and Battery Point. The anchorage and landings off the

town are exposed to all winds proceeding from points in the arc from westnorthwest round by the north, to northeast nearly, for or $112^{\circ} 30'$, and are sheltered from all winds on the land side between these points, or for $247^{\circ} 30'$. The improvement of the harbor, unlike those at most of the harbors of the lakes, is confined to forming a safe anchorage and landing at the town, as that portion of the exposed arc, as given above, lying between a line to the nine feet curve and a line to Battery Point includes shoal ground, over which, from its extent, waves of great altitude are not likely to pass. It may very properly be excluded from consideration in any plan for making a secure harbor, or at all events, until such time as the essential parts to secure this benefit shall have been fully carried out. This arc extends from a line north by east $\frac{1}{2}$ east nearly (north 17° east) to northeast nearly (north $43^{\circ} 30'$ east), or $26^{\circ} 30'$, thus reducing the arc of exposure through which protection is required, to the arc between Light-house Point westnorthwest (north $67^{\circ} 30'$ west) and the nine feet curve north by east $\frac{1}{2}$ east nearly, (north 17° east,) or to 86° . Of the exposed arc thus reduced, the works heretofore constructed covered from Lighthouse Point westnorthwest (north $67^{\circ} 30'$ west,) to the east end of the breakwater, north by west $\frac{1}{2}$ west nearly, (north 18° west,) or $49^{\circ} 30'$, leaving still unprotected that part of it between the east end of the breakwater and the nine feet curve, or $36^{\circ} 30'$.

As the Board, as already stated, cannot with the views entertained by it recommend the restoration of the old works, it is now proposed to show that the protection required may be given by new works that shall not be obnoxious to the objection, which it is conceived belong to the old series.

These works consist of three breakwater structures. The principal or central one on a line drawn from Light-house Point to Battery Point; the second west and inland of, and parallel to the first; and the third, east and lakeward of the main work, and slightly inclined to it, or in a direction S. 77° W. from Battery Point. The west breakwater is limited towards the west by a point 300 feet from a line drawn from the head of the present west pier to Light-house Point, and towards the east, by a northwest line drawn from the west end of the present breakwater, and is in length 1,000 feet. The main breakwater is limited towards the west by a line drawn perpendicular from a point 500 feet on the prolongation of the line of the west breakwater, and towards the east by a length of 2,890 feet; and the east breakwater is limited towards the east by a line drawn from a central point at the landings, tangent to the 9 feet curve, and towards the west by a length of 765 feet. These works cover essentially the entire exposed arc lying between Light-house Point on the west, and the 9 feet curve on the east. Protection is afforded not only to vessels lying in the inner harbor, but to those entering or leaving it by the channels, and besides an outer harbor is formed, between the old and the projected works, that will serve as a harbor of refuge when provided with suitable moorings, made necessary by the absence of a sufficient holding ground.

Besides the two entrances of 500 feet, provided for by the design, between the works, there is one between the shore end of the east

breakwater and the 9 feet curve of 250 feet. To fulfil the condition of protection, the entire length of the two smaller breakwaters will be necessary. It may on the other hand be found in the progress of the operations, that a portion of the main or central breakwater from the protection afforded by the shoalest part of the reef between it and the shore may be dispensed with. To be able to take advantage of this contingency, the work should be commenced at the ends, and proceed inward until the desired protection is afforded.

The works are founded in about 18 feet water, and cover from the northwest winds an area of 97 acres, having a depth of 12 feet and upwards.

An estimate of cost of the foregoing design is herewith submitted. Also a tracing of Dunkirk, with the proposed works delineated thereon.

Very respectfully, I have the honor to be, sir, your obedient servant,

JAMES KEARNEY,

Lieut. Col. Top. Eng., Pres't Board.

Colonel J. J. ABERT,

Bureau Topographical Engineers.

Estimate of the cost of constructing Dunkirk harbor, New York, agreeably to the plan of the Board of Engineers of Lake Harbors and Western Rivers, dated July 12, 1854.—Time six years.

Cost of one crib, 30 feet by 20, and 23 feet high—	
46 side pieces, 12 feet by 12, and 31 feet long, 1,426 feet, at 10 cents.....	\$142 60
23 stringers, 12 feet by 12, and 30 feet long, 690 feet, at 10 cents.....	69 00
69 ties, 12 feet by 12, and 20 feet long, 1,380 feet, at 10 cents.....	138 90
9 bottom timbers, 12 feet by 12, and 30 feet long, 270 feet, at 10 cents.....	27 00
71 cords of stone, at \$7.....	497 00
1,300 pounds of 1½-inch iron drift bolts, at 6 cents	78 00
1,539 feet, board measure, pine plank, at \$14.....	21 42
43 pounds 6-inch spikes, at 7 cents.....	3 01
Carpentry and labor.....	85 00
1 snubbing post.....	25 00
Cost of one crib.....	1,086 03
Western breakwater, 33½ cribs, at \$1,086 03.....	36,201 00
Middle breakwater, 96½ cribs, at \$1,086 03.....	104,620 89
Eastern breakwater, 25½ cribs, at \$1,086 03.....	27,693 76
	168,515 65
Compensation of agent for 6 years, 183 days, at \$4, and 182 days, at \$2 in each year.	6,576 00
	175,091 65
Contingencies, 10 per cent.....	17,509 16
Total amount.....	192,600 81

OFFICE BOARD OF ENGINEERS OF

LAKE HARBORS AND WESTERN RIVERS, Washington, July 12, 1854.

OFFICE BOARD OF ENGINEERS OF
LAKE HARBORS AND WESTERN RIVERS,
Washington, August 29, 1854.

SIR: The report of the Board for the improvement of the harbor of Dunkirk, New York, dated the 12th ult., having been returned to the bureau with the following endorsement by the Hon. the Secretary of War, of the 26th inst., to wit: "The Board will report a plan for expending to the best advantage the amount available for the work, including therein nothing that cannot be executed with the funds on hand," I am instructed to make the following report, accompanied by the requisite estimate in compliance therewith.

It is stated in the report of the Board above cited, that "the anchorage and landings off the town are exposed to all winds proceeding from points in the arc from WNW., round by the north to NE. nearly, or for $112^{\circ} 30'$, and that as a portion of the exposed arc, as given above, lying between a line to the nine feet curve and a line to Battery Point includes shoal ground, over which, from its extent, waves of great altitude are not likely to pass, it may very properly be excluded from consideration in any plan for making a secure harbor." In the final design of the works, this portion of the arc was so excluded, reducing the arc requiring protection from $112^{\circ} 30'$ to 86° . Of this reduced arc, however, there is still a marked difference in the protection already afforded, because of the unequal depths embraced by it, as seen in the west or main channel and the shoal ground on either hand. And it is in view of this difference that I am instructed by the Board to recommend the application of the present available means of the harbor to the construction of the west breakwater, as in NW. winds it will cover not only the entrance between the present ruined piers, but also the deep water in front of the landings and anchorage at the town, over which, as a consequence, the least protection is now afforded against the approach and violence of the waves.

The original report of the Board on Dunkirk harbor, inclosed in the letter of the bureau of the present date, calling attention to the endorsement of the Hon. the Secretary of War thereon, is herewith returned.

I have the honor to be, very respectfully, your obedient servant,

JAMES KEARNEY,

Lieut. Col. Top. Eng., President of Board.

Col. J. J. ABERT,

Bureau of Topographical Engineers.

Estimate of the cost of carrying out a plan "for expending to the best advantage the amount available" for Dunkirk harbor, New York, "including therein nothing that cannot be executed with the funds on hand," made under instructions from the honorable the Secretary of War, of the 26th instant.

22 cribs, 30 by 20, and 23 feet high, for 660 feet of the eastern end of the west breakwater, at \$1,086 03.....	\$23,892 66
Compensation of agent for one year, 183 days, at \$4, and 182 days at \$2.....	1,098 00
	24,990 66
Contingencies, ten per cent.....	2,499 06
Total amount.....	27,489 72
Amount available.....	28,310 78
Balance	821 06

BUREAU OF TOPOGRAPHICAL ENGINEERS,

Washington, July 17, 1854.

SIR: I have the honor to submit the plan and views of the Board in reference to the harbor of Dubuque.

The estimate of the Board is for..... \$23,926

There remains undrawn in the treasury of the appropriation of August, 1852, in reference to Dubuque harbor..... 5,016

Leaving yet to be provided, in order to meet the views of the Board

18,910

It may be proper to remark that the Board has made no estimate for the construction of a suitable dredge-boat, being of the opinion that the price estimated for constructing the embankment will also cover the expense of a dredge-boat, and that much of the embankment can be made with the material excavated in dredging.

Respectfully, sir, your obedient servant.

J. J. ABERT,

Colonel Corps Topographical Engineers.

HON. JEFFERSON DAVIS,
Secretary of War.

The Board will report a plan for expending to the best advantage the amount available for the including therein nothing that cannot be executed with the funds on hand.

JEFFERSON DAVIS.

Secretary of War.

WAR DEPARTMENT, August 26, 1854.

BUREAU OF TOPOGRAPHICAL ENGINEERS.

Washington, August 30, 1854.

SIR: I have the honor to submit the report of the Board in reference to the harbor of Dubuque, Iowa, revised by the Board in conformity with the order of the honorable Secretary, of the 26th inst.

Respectfully, sir, your obedient servant,

J. J. ABERT,

Colonel Corps Topographical Engineers.

Hon. JEFFERSON DAVIS.

Secretary of War.

Approved :

JEFFERSON DAVIS,

Secretary of War.

WAR DEPARTMENT, *September 15, 1854.*

BOARD OF ENGINEERS,

LAKE HARBORS AND WESTERN RIVERS,

Washington, July 13, 1854.

SIR: In relation to the plan of improvement of the harbor of Dubuque referred to the Board, I am instructed to address to you the following report :

The city of Dubuque occupies a position on the westerly side of the Mississippi river, from the main navigable channel of which it is separated by a cluster of flat alluvial islands and intervening sloughs or shoal channels, the former varying in width from 100 to 600 yards, and the latter from 50 to 600 feet. Immediately above the town site, and contiguous to the same, is a broad and shoal water-field, called Lake Perosta, one-third of a mile wide, and nearly one and a half miles long, from which, as also from the sloughs above mentioned, steam navigation is almost entirely excluded in very low stages of the river. The westerly shore of the river is rendered inaccessible to steam navigation in low water, on a distance of more than a mile below, and nearly three miles above the city, by reason of the lake, sloughs, and islands.

The distance across the islands and sloughs, from the shore of the river to the main channel, varies from 580 to 700 yards. The extent of the obstructions along the river, from the head of the uppermost to the foot of the lowermost island, is about four miles.

The total fall or vertical descent of the river in this distance is a little less than one foot, or three inches per mile. The river current is, of course, gentle in all stages, varying from one mile in low water to three miles in high freshets, in the main river, and moving with less than half the same velocities in similar stages through the sloughs, &c. The depth of the low water channel of the river on the distance mentioned, varies from ten to twenty feet, while that of the sloughs communicating with the harbor is limited to two feet, or to such a depth that boats drawing two feet cannot enter the harbor.

The Mississippi river, both above and below the islands, has a mini-

mum channel depth of at least four feet, in extreme low water. Hence it is manifest that steamers adapted to low water navigation of the river, or those drawing four feet, cannot reach the city landings, or enter the harbor, in the present low water condition of the sloughs.

A multiplicity of expedients, having for their object the formation of a navigable low water channel leading from the main channel of the river through the sloughs, and across these islands to the city landings, have been suggested by different individuals. No less than nine different methods were proposed and reported upon in December, 1844, by Captain Crane, of the Topographical Engineers, who, with the aid of Joshua Barney, esq., had made a careful examination and survey of the harbor, and prepared a chart exhibiting the topographical and hydrographical features of the islands, sloughs, and a portion of the river in the vicinity of the city.

The estimated cost of executing the several methods reported by Captain Crane varied from \$10,277 to \$64,875; the average cost of the several methods being \$30,302, and the cost of the method deemed most feasible and effectual by Captain Crane being upwards of \$43,000.

The various methods referred to contemplated the formation of channels leading in various directions through the sloughs, along the river shore, and across the islands at, above, and below the town site. The widths proposed for the channels vary from 60 to 200 feet, while their low water depth is uniformly four feet.

The efforts hitherto made towards the improvement of the harbor consist mainly in attempts to widen and deepen the natural channels communicating between the main river channel and the harbor, and in opening new channels across the islands at certain points, for the purpose of rendering access to the harbor more direct and easy than by pursuing the devious channels heretofore used.

The accompanying chart exhibits a plan of the harbor, islands, sloughs, &c., lying between the city landings and the main river; also the several positions at which attempts have been made for the purpose of enlarging old channels, and opening new ones to connect the harbor with the main channel of the river, and rendering the former accessible to steam navigation in all stages of water.

Explanations of the Chart.

The chart is transcribed from surveys and drawings executed by J. Barney, esq., in 1844, under the direction of Captain T. J. Crane, of the corps of Topographical Engineers, the scale of projection being one foot, or twelve inches to the mile. The original map embraces an extent of about four miles, commencing at Eagle Bluff, nearly three miles above Dubuque, and terminating a little more than a mile below the city, near the lower end of the lowermost island of the cluster. It includes all the islands, sloughs, pools, and projected canals and channels, in the vicinity of Dubuque, on the westerly side of the river.

The transcript or copy, herewith, embraces an extent of about one and a quarter miles, commencing near the upper extremity of the town site and terminating a little below the site. It also embraces a portion

of the town site of Dunleath on the easterly side of the river, the position of which, as also the configuration of the shore, &c., on that side have not been defined on the original map. These features, however, have been presented in the transcript agreeably to the best lights that can be had on the subject.

The commercial importance of Dubuque has been greatly enhanced by an enactment of Congress which recognizes its site as the northerly terminus of the Central Railroad of Illinois, and involves the necessity of a bridge across the Mississippi, connecting the new town of Dunleath with the city of Dubuque, consequently, it becomes proper and advisable that the improvement of the harbor should be made with special reference to the destinies that await the accomplishment of this great enterprise. With these views of the subject, a plan differing from those above considered has been proposed by a member of the Board, who is familiar with the subject, and has been adopted by the Board, not only as the most efficient and permanent mode of improvement, but as the most convenient and eligible also for connecting the business of the railroad with the trade and commerce of Dubuque.

The details in relation to the efforts that have already been made towards the improvement, and to those now proposed to be made for the same object, in connexion with the railway, will be considered in the explanations now to be given, which are as follows, viz:

R R. Line of a projected canal along the river, the shore connecting the harbor with Lake Perosta, and continued thence upward along the shore to Eagle Bluff.

r r. Line of same channel continued downward through the inner slough, and near the shore to the lower extremity of the lowermost island.

S. A proposed artificial channel across Juner island, connecting the harbor with the outer slough, near the head of the basin, and continued upward in the slough quite to its head near Eagle Bluff.

T. Artificial channel across Juner island, connecting the harbor with the main river channel, through the natural channels W and X.

V V. Projected artificial channel across the outer island, leading in nearly a straight direction from the city landing of Dubuque to the ferry landing on the easterly shore of the river.

W W. Main outer slough situated between the inner and outer islands.

X X. Main natural entrance from the river to the harbor, crossing the outer island.

Y. Curved line of piles intended to obstruct the flow of water downward in the outer slough, and to promote and facilitate the improvement of the channel at X.

Z. Z. Artificial channel, called Waples cut, leading across the inner island, and connecting the main entrance at X with the inner slough, at a point a little below the city landing.

Remarks.

The canal R has been partially excavated, but has not been rendered navigable in low water.

The channel r. leading from the harbor downward through the inner slough, to its lower extremity, has been partially improved by dredging at and near the basin, but as yet inadequately opened at any point.

The proposed cut at S has not yet been commenced, and the propriety of opening it is very questionable, because of the extensive excavations required in the outer slough, in order to render the latter navigable to its head in low water, which appears to have been the object of the channel in this direction.

The cut at T has been formed, and appears to answer the purposes for which it was intended, so far as these purposes were attainable, prior to the completion of the plan of improvement of which it is merely a part; the residue of the plan embraced the opening of a similar cut across the outer island of much greater extent at V, leading in nearly a straight direction towards the ferry landing, on the east side of the river. The cut last mentioned has been commenced, but it falls far short of being finished. The propriety of its completion may be regarded as very questionable. The projected width of the cut is less than half the width required for the free passage of steamers, its length is about eight hundred feet, and the direction as well as the speed with which the water would flow through it very doubtful, and it would be liable to be choked with drift and sediment on the occurrence of every considerable freshet.

A portion of the main outer slough at W serves as a channel through which, and the artificial channel at T, an entrance into the harbor is effected, but cannot be made sufficiently commodious without additional dredging to a very considerable extent.

From W the line of communication is continued through the channel X to the main navigable channel of the river; but the navigation through it is obstructed at low water by several impassable shoals, across which the channel requires enlargement by dredging. The entire channel through T, W, and X is devious and crooked in a high degree.

The line of piles at Y appears to have answered no valuable purpose, and most, if not all, of the piles have been extracted and removed either by design or by accident.

An artificial channel, called Waple's cut, has been formed at Z at the expense of the corporation of Dubuque, as is supposed, and leads directly from the main river channel through X to a point in the inner slough a little below the city landing. This channel requires additional dredging in several places, and may be continued upward through the slough and along the river shore, to any desirable extent, by the same means. This channel, so extended and enlarged, may be safely regarded as more feasible and advisable than any of the improvements heretofore proposed, because of its shortness, the comparatively small amount of dredging requisite to its formation, and the greater facilities afforded by it for ingress and egress between the river and the harbor.

Plan of improvement now proposed.

Under existing circumstances the plan now to be considered is deemed preferable to either of those treated of under the preceding heads, for the following and various other cognate reasons, viz: It involves greater

simplicity, uniformity, and economy. It combines less extent with greater capacity of channel, and affords greater facilities of ingress and egress for navigation. It provides for greater stability, durability, and efficiency of structure. It contemplates a more convenient and easy connexion with the railway communications stretching from Mobile and New Orleans to the junction of the Ohio and Mississippi, and thence, via La Salle to Dubuque, and with other projected railroads; thence to the northward, westward, and southward, and affords greater facilities for intercourse in all directions, both by land and by water, than either of the plans previously noticed.

The plan now under consideration contemplates the construction of a causeway, embankment, or dike of earth, extending entirely across the islands and sloughs, in the position indicated on the chart, with its summit elevated four feet above the surface of the highest known flood, (viz: the flood of 1844.) The length of the causeway to be about 1,700 feet; its summit width or grade, 45 feet; its width at base, 30 to 135 feet; its heights, 10 to 36 feet; average height, about 15 feet; its upper slope $1\frac{1}{2}$ to 1 foot; lower slope 1 to 1; and its carriage way, (McAdamized,) 30 feet wide. Its entire length, including pier-head and slopes at the outer end, to be about 2,000 feet; and its magnetic bearing, which is intended to be coincident with the line of the proposed bridge, about S. 68° E. True bearing S. $76^{\circ} 05'$ E.

In accordance with the foregoing dimensions the proposed causeway, or embankment, will contain 60,208 cubic yards, to which may be added, for a sloped wharf or landing, faced with stone at the outer end of the causeway, (300 feet long and 45 feet wide,) say 5,312 cubic yards; and we have for the aggregate contents of the work 65,520 cubic yards. The landing at the outer extremity of the causeway should present a slope declining towards the river at the rate of one in six, and should be substantially faced with the customary wharf pavement of stone, and should be sloped downward in the direction of the stream, at an angle of about 3° , or 1 in 19, and be paved with broken stone. The wharfing should be curved around the deflection at the junction of the river and harbor channels, and might be continued thence towards the city landing, and along the upper slope of the causeway to any desirable extent. A paved ramp in the direction last mentioned will not be needed for the protection of the causeway from the abrasion of water currents, for in this locality the current will not be likely to exceed one-and-a-half miles per hour, in the highest flood, while in lower stages it will be limited to half that speed, and perhaps less. The ramp thus extended, though not required for the protection of the causeway, may be found beneficial as an enlargement of the city landings, with which it may hereafter be connected.

Earth requisite and suitable for the formation of the causeway may very conveniently be procured from the proposed new channel, which is to be opened immediately above and alongside of the line of the work, (or it may be procured elsewhere, if found more convenient.) The proposed width of the channel is 200 feet, and its low water depth four feet. On arriving near the city, the channel may be deflected up stream on a gentle curve, and extended along the shore to any desired distance.

The excavations of earth required in opening the new channel, inclusive of the portions of the two islands intended to be removed, will probably be about equal to the earthy contents of the causeway, and can be readily applied to the formation of the latter.

Illustrations on the chart.

Fig. 1. Plan of the harbor, causeway, &c.

Fig. 2. Section across the islands, sloughs, &c., on the line of the causeway, and projected bridge upon the Central Railroad of Illinois.

Fig. 3. Section of the causeway or embankment trending about S. 76° 05' E. True.

A B. The causeway 1,700 feet long and 45 feet wide at summit.

B C. Line of projected bridge about 3,000 feet in length.

D. The position of a draw, opening 80 feet wide between the draw piers.

a, b, c, B. Proposed new channel, which may be deflected at a, and extended upward to d; width 200 feet, and low water depth four feet throughout.

B C. Pier head, paved ramp and sloped grade at the outer end of the causeway.

I have the honor to be, very respectfully, your obedient servant,

JAMES KEARNEY,

Lieut Col. Top. Engineers, President Board.

Col. J. J. ABERT,

Bureau of Topographical Engineers.

Estimate.

Formation of causeway, 65,520 cubic yards of earth removed from new channel and placed in embankment, at twenty cents per cubic yard.....	\$13,104 00
Broken stone for macadamized pavement on summit grade of embankment 30 feet wide and 9 to 10 inches thick, 3,000 perches, at \$2 50 per perch.....	7,500 00
Stone pavements for ramp or slope at the pier head of the causeway, and applying the same, 600 perches, at \$3..	1,800 00
Superintendence and contingency, say.....	1,522 67
Amount of estimate.....	<u>23,926 67</u>

JAMES KEARNEY,

Lieut. Col. Top. Engineers, President Board.

OFFICE BOARD OF ENGINEERS,

LAKE HARBORS AND WESTERN RIVERS,

Washington, August 29, 1854.

SIR: The report of the Board in reference to the harbor of Dubuque, Iowa, of the 13th July last, having been returned to the bureau with the following endorsement, made by the honorable Secretary of War, on the 26th instant, to-wit: "The Board will report a plan for expending to the best advantage the amount available for the work, including therein nothing that cannot be executed with the funds on hand."

I am instructed to make the following report, accompanied by an estimate, as called for by the honorable Secretary:

From an examination of the returns in the bureau, it appears that of the appropriation for the improvement of the harbor, approved August 30, 1852, an unexpended balance of \$4,516 still remains for expenditures for the improvement in question. In the opinion of the Board, this amount can be expended to advantage in excavating the channel immediately above the proposed causeway, and in forming a partial embankment of the excavated materials. On the upper line of the causeway, from the main river shore at Dubuque, to the outer island. The means being limited to the sum above stated, viz: \$4,516, and the quantum of labor being greatly reduced below that contemplated in the report submitted by the Board on the 13th ultimo, the rate per cubic yard of excavating and embanking will be enhanced inversely, in a corresponding degree, and may fairly be estimated at twenty-five cents, instead of twenty cents per cubic yard, as provided for in the report just mentioned.

Accordingly the estimate will be as follows, viz:

Removing 18,064 cubic yards of earth from the channel,
and placing the same in the embankment, at 25 cents. . . . \$4,516

The excavations should be made along the bottom and sides of the proposed channel, to the depth of four feet, and to such width that steamers, &c., may be able to navigate the same from the main channel quite to the westerly shore of the river. In this way the work that may be done will include nothing that cannot be executed with the funds on hand, and at the same time will contribute towards the completion of the plan reported.

Very respectfully, I have the honor to be, sir, your obedient servant,
JAMES KEARNEY,

Lieut. Col. Top. Eng.

Col. J. J. ABERT,

Bureau Topographical Engineers.

The papers in the case are herewith reported.

BUREAU OF TOPOGRAPHICAL ENGINEERS,
Washington, July 19, 1854.

SIR: I have the honor to submit the report of the Board of Engineers on Lake Harbors and Western Rivers in reference to the harbor of Kenosha, (formerly Southport,) on Lake Michigan.

The appropriation for this harbor under the law of August 30, 1852, was.....	\$10,000 00
Amount drawn.....	8,084 79
Leaving yet undrawn.....	<u>1,915 21</u>
The estimate for the work by the Board is.....	20,128
Amount undrawn.....	<u>5,210</u>
Leaving, as yet, to be provided to complete the views of the Board	<u>18,918</u>

Respectfully, sir, your obedient servant,

J. J. ABERT,

Colonel corps Topographical Engineers.

HON. JEFFERSON DAVIS,
Secretary of War.

Colonel Abert will report what part of the plan it is contemplated to execute with the unexpended balance on hand; and whether any assurances have been received that the remaining sum necessary to complete the plan will be furnished by the local authorities or citizens of the place.

By direction of the Secretary of War.

A. CAMPBELL,
Chief Clerk.

WAR DEPARTMENT, *August 2, 1854.*

BOARD OF ENGINEERS,
 LAKE HARBORS AND WESTERN RIVERS,
Washington, July 18, 1854.

SIR: In relation to the harbor of Kenosha, Wisconsin, a subject which has been referred to this Board by the bureau, I am instructed to make the following report.

The plans which have been referred to the Board in connexion with the harbor relate, in the first place, to the repairing, protecting, and perfecting of the existing works, and the deepening and defending of the channels, and are set forth in the letter of Mr. M. Gamble of the 21st of April, and in the plan which accompanies it; and, secondly, those which relate to the extension and completion of the work, as set forth in the report of Mr. S. Hale, the local agent.

Mr. Hale, who gives a plan for extending the present piers, is of opinion that the piers hereafter to be put in should be in a line with those already in, and he proceeds to defend this opinion upon grounds which seem to the Board not to have been well considered. He says in the report referred to that northeast storms are the worst which vessels have to encounter upon Lake Michigan, and therefore that the piers should incline a little to the southeast. The opinion of the Board is, on the contrary, that any extension of the piers at Kenosha should incline to the north of east, and on examining the plan of the harbor as it already exists, and as it is proposed to be extended, it is found that the line which he has drawn indicative of the prolongation of that pier is E. by N. nearly, (or N. $78^{\circ} 45'$ E.,) and is the course on which, in the judgment of the Board, the north pier ought to be built; and the south pier might be drawn precisely in prolongation of the south pier. Moreover, in the judgment of the Board, the piers need not extend into the lake beyond the depth of 12 feet, so that in conformity with this condition of the problem, the extension of the southern pier might be 180 feet, or six cribs, (each 30 feet long, 20 feet wide, and 17 feet high, reckoning from the bottom of the lake to the platform of deck of the pier;) and moreover to mask the southern pier, which is here incontestibly the leeward one. The northern pier should receive an extension of 210 feet, or of 7 cribs, of the like dimensions with the others. In taking these elements for its guide, the Board would have it understood that it does not receive them on the authority of Mr. Hale, the local agent, who is manifestly in error in relation not only as to his physical facts, but also as to the engineering principles which he advances in his report.

Conforming, however, to these views of the Board, the accompanying estimate marked A has been made, and it shows the probable cost of extending the piers at Kenosha, added to which is an item for raising the existing structure to the level which the Board has heretofore proposed for the minimum height of all the lake piers above the level of the lake, namely, five feet.

MR. GAMBLE'S REPORT.

Mr. Gamble, in his letter already referred to, limits his attention to the "work indispensably necessary to be done during the present working season of 1854." This includes:

1. Filling in with coarse gravel between the sheet piling and inside of the piers, to keep the same (sand) from washing into the channel.
2. For dredging a channel 160 feet wide to a depth of 12 feet, through the sand-bar out of and extending across the entrance of the harbor.
3. For dredging a channel 80 feet wide to a depth of 12 feet, the entire length of and between the harbor piers.
4. For dredging a channel 600 feet in length and 80 feet wide to a depth of 10 feet water, to connect with the river channel inside.
5. For sheet piling inside of the harbor.

6. For repairing and building up old sheet-piling at the west end of south pier.

7. For building and levelling up two cribs, one on the north and the other on the south pier on the east end.

Taking these items in their order, the Board has to observe, in relation to the first, that undoubtedly it is very important, with the view of preserving the channel between the piers, that measures should be taken for preventing the passage of sand through the sheet-piling. It is not believed, however, that clean gravel will be sufficient for that purpose, but that clay or mud, or a mixture of clay with gravel, may be found necessary. Believing that clay or mud may be had very convenient to the work, the sum affixed to the item may stand as in Mr. Gamble's estimate at \$770.

2. The estimate for dredging a channel 160 feet wide to a depth of 12 feet, through the sand-bar outside of and extending across the entrance of the harbor, may stand, as stated by Mr. Gamble,

at	\$288 90
And to that should be added the usual 10 per cent. for contingencies	28 89

Making a total of	<u>317 79</u>
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3. For dredging a channel 80 feet wide to a depth of 12 feet, for the entire length between the piers. With reference to this item, the Board has to remark, that it can see no sufficient reason for reducing the channel-way to half the opening between the piers, which are 160 feet apart. It therefore proposes to double the quantity of excavation estimated by Mr. Gamble, viz:

11,000 cubic yards by 2, 22,000 cubic yards at 15 cents, or	\$3,300 00
To which, adding 10 per cent., would give	230 00

Or in all	<u>3,630 00</u>
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4. For dredging a channel 600 feet long and 80 feet wide to a depth of 10 feet, viz: From the west end of the north pier to the river channel. The Board, accepting ten feet as a sufficient depth in smooth water, objects, nevertheless, that a width of 160 feet of water way ought to be maintained inside of, as well as between, the piers, and that, therefore, the cost of this item ought be increased, thus:

For dredging a channel 160 feet wide and 600 feet long, to 10 feet of depth, 28,000 cubic yards, at 15 cents	\$4,200 00
And contingencies, at 10 per cent	420 00

Making a total	<u>4,620 00</u>
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and it has to observe also that the excavation referred to in the preceding article, and the sheet-piling noticed in article 5 ought to follow the

line indicated on Mr. Gamble's chart of April 19, 1854, viz: the line marked A B C:

5. For sheet-piling inside of the harbor. This item is accepted by the Board.....	\$808 19
6. For repairing and building up 150 feet of old sheet-piling at west end of south pier, (an item accepted by the Board)	366 74
7. For building and levelling up two cribs, one on the north, and one on the south pier, east end.....	613 30

Mr. Gamble proposes to raise the outer end of each pier to the height of five feet above the surface of the lake, the height heretofore proposed for such works as already mentioned. The Board sees no good reason for thus limiting this elevation, and recommends the raising up of each from the outer end to the present shore line. The change will increase the estimate by the difference between \$613 30 and \$2,043 25.

Recapitulation.

First item.....	\$770 00
Second item.....	317 79
Third item.....	3,630 00
Fourth item.....	4,620 00
Fifth item.....	808 19
Sixth item.....	2,043 25
Seventh item.....	613 30
	12,802 53

ESTIMATE A.

Estimate of the cost of one crib 30 feet long, 20 feet wide, and 17 feet high.....	\$871 25
Cost of 13 cribs of like dimensions.....	\$11,326 25
Estimated cost of work reported as being indispensably necessary to be done during the present working season of 1854, as above.....	12,802 53
Total cost of the work proposed to be done at Kenosha.....	24,128 78

Respectfully submitted,

JAMES KEARNEY,
Lieut. Col. Top. Eng. Pres't Board.

KENOSHA, Wis., April 21, 1854.

SIR: In compliance with your request, I have made a survey of the harbor at this place, and herewith submit a map or chart showing its

present condition, together with an estimate of the work absolutely necessary to be executed during the present working season.

The first item in the expenditure is for 700 yards of coarse gravel for filling in behind the sheet-piling, and inside of the piers where the water washes the sand through between the timbers into the channel. This part of the work should be done as soon as possible.

The next in order is for dredging a channel 160 feet wide to a depth of 12 feet water, through the sand-bar 100 feet east of the end of the north pier, extending across the harbor entrance; this bar is only 60 feet wide from nine feet water on one side to nine feet water on the other. The least depth on it is seven feet water, or from 12 feet water on one side the distance across it to 12 feet water on the other side is only 100 feet. This is the only bar outside of the piers, as will be seen by reference to the line of soundings taken 18 feet apart, extending from the end of the north pier east to a depth of 24 feet water. It will also be observed that only 400 feet east of the end of the north pier the water is 20 feet deep. This is certainly favorable, and its advantages should not be neglected.

The next item for continuing the dredging of a channel 80 feet wide to a depth of 12 feet water, the length of and between the piers; this channel should be excavated close alongside of the north pier, where the least amount of dredging is required.

The last item of dredging in the estimate is for continuing the aforesaid channel 80 feet wide, with a depth of 10 feet water, 600 feet further, from C to A, at the same point, to connect with the main channel of the river.

The amount of dredging contemplated, if executed, would give a good safe channel for loaded vessels of the largest class, and render this harbor more accessible than any other on this shore of the lake, in their present condition, so far as my knowledge extends.

The sheet-piling, and building and levelling up of the two cribs on the outer end of the piers, specified in the estimate, are for the security of the pier ends, and to keep the surf from washing the sand into the channel at the west end of the piers.

The estimated quantity of each item I believe to be correct, but the actual cost of the workmanship will vary according to favorable or unfavorable circumstances on account of the weather, and the knowledge, perseverance, and energy of the superintendent and workmen.

Probably \$1,000 should be added to the estimate for renewing and repairs of machinery and tools.

This report, examination, &c., are not extended as they might otherwise be, owing to the hasty manner in which they were necessarily made, for want of time which the press of other business has deprived me of.

I am, very respectfully, your obedient servant,

WILLIAM GAMBLE.

Hon. C. C. SHOLES,

Mayor of Kenosha, Wisconsin.

KENOSHA HARBOR, WISCONSIN.

Estimate for the improvement of the harbor, of work indispensably necessary to be done during the present working season of 1854.

1. For filling in behind sheet-piling and inside of piers from C to D and from E to F, (see drawing) to keep the same from washing into the channel through sheet-piling and piers—	
147 cords or 700 cubic yards of coarse gravel, at \$1 per yard	\$700 00
For contingencies add 10 per cent	70 00
Amount required	<u>770 00</u>
2. For dredging a channel 160 feet wide to a depth of 12 feet water through the sand bar outside of and extending across the entrance of the harbor, (see drawing,) 1,926 cubic yards, at 15 cents	
	288 90
For dredging a channel 80 feet wide to a depth of 12 feet water (970 feet) the entire length and between the harbor's piers, 11,000 cubic yards, at 15 cents per yard...	1,650 00
For dredging a channel 600 feet in length and 80 feet wide to a depth of 10 feet water from C, at the west end of north pier to A, to connect with channel of river inside, (see drawing) 14,000 cubic yards, at 15 cents	2,100 00
	<u>4,038 90</u>
For contingencies add 10 per cent	403 89
Amount required for dredging	<u>4,442 79</u>
3. For sheet-piling from B to A, (see drawing) 340 feet—	
544 feet timber for piles, at 8 cents per foot	43 52
340 feet timber for caps, 12 by 12, at 14 cents per foot.	47 60
12,240 feet 3-inch plank, at \$14 per M	171 36
8,160 feet 2-inch plank, at \$14 per M	114 20
200 pounds spikes, at 9 cents	18 00
Workmanship	340 00
	<u>734 72</u>
For contingencies add 10 per cent	73 47
Amount required	<u>808 19</u>
4. For repairing and building up 150 feet of old sheet-piling 3 feet above water surface, at the west end of south pier, 450 feet timber, 12 by 12, at 14 cents per foot....	
	63 00
350 feet timber, 12 by 12, for piles, at 14 cents per foot...	42 00

568 pounds 1-inch square iron for bolts, at 5 cents per pound.....	\$28 40
Workmanship	200 00
	333 40
For contingencies add 10 per cent	33 34
Amount required.....	<u>366 74</u>

5. For building and levelling up two cribs, one on the north and the other on the south piers at the east end—	
Siding—600 feet timber, 12 by 12, at 14 cents per foot ...	84 00
Ties—450 feet round timber, at 8 cents per foot.....	36 00
Clamps—100 feet 3 by 8 plank, at \$14 per M.....	1 40
Iron—363 pounds 1-inch square iron for bolts, at 5 cents..	18 15
Spikes—100 pounds 9-inch spikes, at 8 cents	8 00
Stone—30 cords stone, at \$7.....	210 00
Workmanship	200 00
	557 55
For contingencies add 10 per cent	55 75
Amount required.....	<u>613 30</u>

Recapitulation.

1. For gravel, filling behind sheet-piling, and in piers	770 00
2. Dredging 26,926 cubic yards.....	4,442 79
3. Sheet-piling B to A, at west end of north pier.....	808 19
4. Sheet-piling, repairs of, at west end of south pier.....	366 74
5. Building and levelling up two cribs east end of north and south piers.....	613 30
Estimated total amount.....	<u>7,001 02</u>

WILLIAM GAMBLE.

KENOSHA, WISCONSIN, *April 20, 1854.*OFFICE OF PUBLIC WORKS,
Kenosha, September 1, 1853.

SIR: Since I have had charge of the public works at this place I have, in accordance with your instructions under date July 14, 1853, made and am still making such repairs to the existing works as I have considered necessary.

I have removed the obstruction in the channel occasioned by the wreck of a schooner.

In my letter of August 7th I stated to the department that I thought

there were but few repairs necessary to be made for the protection of the existing works. On a more recent examination of the ends of the piers, which are left open, I find the action of the waves have worked out some of the stones during the recent storms, and I am fearful that when the ice forms and is thrown into the openings at the end of the piers that it will crowd them apart.

The best method I could devise to protect them was by putting in at the end of each a new crib, and protecting that by piles closely driven across the ends, which I am now engaged in doing.

I think the sum of one thousand or fifteen hundred dollars could be profitably expended in dredging a channel between the piers this fall. I also herewith enclose a chart of the harbor at Kenosha, and an estimate of the probable cost of completing the works at this place.

I am of the opinion that the piers hereafter to be put in should be on a line with those already in, (that is, inclining a little to the southeast;) for this reason, our northeast storms are the worst which our vessels have to encounter on this lake. If the north pier inclined to the northeast, the mouth of the harbor would be widened, allowing a greater rush of water and heavier seas to enter than if the pier was inclined towards the southeast; and a vessel entering the harbor, during a gale from the northeast, would be more liable to be thrown over to the south pier, or driven ashore; whereas, if the piers inclined to the southeast, a vessel coming in under the same circumstances would be in still water much sooner, and could be more easily managed. I am also of the opinion that there would be less danger of the accumulation of sand at the mouth of the harbor.

I think the north pier should extend from two to three hundred feet further into the lake than the south pier.

I am, very respectfully, your obedient servant,

SAMUEL HALE, *U. S. Agent.*

Colonel J. J. ABERT,

Corps Topographical Engineers.

Estimate of funds required for completing the harbor of Kenosha, (formerly Southport,) Wisconsin.

44,800 feet square timber, at 15 cents	\$6,720 00
2,000 ties, 48,000 feet, at 8 cents	3,840 00
4,240 feet ties for bottoms, at 8 cents	339 20
60 kegs 8-inch spikes, at \$8	480 00
6,000 pounds iron, at 5 cents	300 00
6,000 feet clamping, at \$15	90 00
2,000 cords stone, at \$7 25	14,500 00
Dredging 16,145 yards sand and clay, at 20 cents	3,229 00
Labor	8,000 00
	37,498 20
Contingencies, 10 per cent.	3,749 82
	41,248 02

Deduct materials and cash on hand, viz:		
8,966 pounds iron, at 6 cents.....	\$537 96	
Less 10 per cent. retained.....	53 79	
		\$484 17
2,815 feet square timber, at 13 cents.....	365 95	
Balance of appropriation not yet received...	2,000 00	
Cash on hand August 31, 1853.....	7,044 20	
		\$9,894 32
Amount of appropriation required to complete the harbor		31,353 70

SAMUEL HALE, *U. S. Agent.*

OFFICE OF PUBLIC WORKS,
Kenosha, September 1, 1853.

OFFICE BOARD OF ENGINEERS,
LAKE HARBORS AND WESTERN RIVERS,
Washington, August 3, 1854.

SIR: The bureau having referred to the Board so much of the endorsement of the honorable the Secretary of War on the report, &c., of the harbor of Kenosha, Wisconsin, from this office, dated the 18th ultimo, in the following words, to wit: "Colonel Abert will report what part of the plan it is contemplated to execute with the unexpended balance on hand." I am instructed to make the following reply:

That the available funds for Kenosha, as stated in the letter of the bureau of the 19th ultimo, transmitting the report on this harbor, amount to..... \$5,210 00

Which amount, the Board is of opinion, should be applied to the objects in the order following:

1. For filling in behind sheet-piling and inside of piers, from C to D and from E to F, (see drawing,) to keep the sand from washing into the channel 770 00
2. For dredging a channel 160 feet wide to a depth of 12 feet water, through the sand-bar outside of and extending across the entrance of the harbor. (See drawing.) 317 79
3. For dredging a channel 80 feet wide to a depth of 12 feet water, (970 feet,) the entire length and between the piers..... 1,650 00
4. For building and levelling up two cribs, one on the north and the other on the south pier at the east end 613 30
5. For dredging a channel 600 feet in length and 80 feet wide, to a depth of 10 feet water, from C, at the west end of north pier, to A, to connect with the channel of the river inside. (See drawing.)..... 1,858 91

Amount of available funds.....

5,210 00

On a revision of the estimate for the works at this harbor, the Board finds the aggregate stated in its report to be in excess \$613 30.

It considers the error, however, of little importance, and does not propose to alter that amount, which will stand as already stated, at \$24,128 78.

I have the honor to be, sir, very respectfully, your obedient servant,

JAMES KEARNEY,

Lieut. Col. Top. Eng., Pres't Board.

Col. J. J. ABERT,

Bureau Topographical Engineers.

BUREAU OF TOPOGRAPHICAL ENGINEERS,

Washington, August 8, 1854.

SIR: I have the honor to submit a copy of the report of the Board of Engineers on Lake Harbors and Western Rivers, in reference to operations on the Illinois river:

The estimate of the engineer, Major G. M. Long, who made the survey, amounts to..... \$71,872

The estimate of the Board for the same work (under different circumstances) amounts to..... 21,386

Viewing these estimates as the greatest and least expression of probable cost, the mean between the two will be \$46,634.

This difference in the estimates, and the reasons for it, are explained by the Board in its report. I should consider it a fortunate event if the estimate of the Board should be sustained in the execution of the work.

The appropriation for this river in the law of August, 1852, was \$30,000, of which there yet remains in the treasury upwards of \$17,000. If the views and estimate of the Board be correct, this amount would nearly complete the improvement contemplated by the estimates.

Respectfully, sir, your obedient servant,

J. J. ABERT,

Colonel Corps Topographical Engineers.

Hon. JEFFERSON DAVIS,

Secretary of War.

The unexpended balance will be applied to dredging on the bars of that portion of the river which have been surveyed; the dredging will be determined by the amount which can be done throughout the distance stated, with the fund which is now available.

JEFFERSON DAVIS,

Secretary of War.

WAR DEPARTMENT, *August 25, 1854.*

OFFICE BOARD OF ENGINEERS,

LAKE HARBORS AND WESTERN RIVERS,

Washington, August 1, 1854.

SIR: I am instructed by the Board to submit the following views in relation to the subject of the report of G. W. Long, esq., for the improvement of Illinois river; said report having been forwarded to the

bureau by Lieut. Col. J. E. Johnston, superintendent western river improvements, under date the 25th of July last, and by it laid before the Board.

The survey of the river appears to have been made agreeably to the instructions of Lieut. Col. Long, late superintendent western river improvements, from its mouth to the mouth of Copperas creek, about 150 miles, or 30 miles below Peoria. The Board is of opinion that the survey of the river should be extended in like manner quite to the head of navigation, at La Salle, about 100 miles above the point at which the survey was terminated.

Through the distance surveyed the width of the river, exclusive of islands, varies from 500 to 700 feet; its depth in the pools intervening between the shoals or bars varies from 4 to 12 or 14 feet, and on the bars from a few inches to 2 feet; also in the natural channels across the bars from 1 to 4 feet. Its average declivity is about $2\frac{3}{5}$ or 2.66 inches per mile. Its current is very sluggish, moving with a speed of only one quarter to one and a half miles per hour; and in consequence the bottom and sides of the channels, as well as of the river generally, are almost entirely exempt from hydraulic abrasions.

The river through the distance surveyed is everywhere free from rocks. Its bars are composed of loam, fine sand, and fresh water shells, compacted together and considerably indurated, especially on the lower portions of the river, from its mouth to the head of the extension shoals called "Naples Flats," above which the bars become less indurated and more yielding. Agreeably to an estimate of the engineer, predicated on the quantity derived from his surveys, the probable cost of dredging through the distance surveyed is as follows, viz:

From the mouth of the river to the head of Naples Flats, 65 miles, the number of bars is sixteen; and the aggregate quantity and cost of dredging are 65,975 cubic yards, and at 90 cents.....	\$59,377 50
From Naples Flats to a point three miles above the head of Copperas creek shoals, 85 miles, there are eight bars; and the aggregate quantity and cost of dredging are 41,650 cubic yards, and at 30 cents	12,495 00
Hence the estimated cost of dredging a channel across 24 bars, and through a distance of 150 miles from the mouth of the river, amounts to	<u>71,872 50</u>

This estimate it is supposed has been predicated, so far as relates to cost, on results obtained from the use of the dredge-boat Gopher in a very low stage of the river. This boat was constructed on a plan adapted to the deepening of harbors, where the natural depth is three-and-a-half or four feet, and an artificial depth of ten or eleven feet is required. Hence the boat and its scows, which have the same draft, cannot operate to advantage in less than the depth of three-and-a-half or four feet upon the bars. Moreover, with this depth only, the scows could not discharge their mud, &c., for the hatches through which the discharge must be made are situated in the bottoms of the scows, and open downward; but not having space enough between the bottom of

the scow and the bed of the river, this operation could not be effected and the mud be discharged without incurring the trouble and delay of removing the scows with their contents to considerable distances, not unfrequently a mile or more, in quest of pools deep enough to receive them and to discharge their contents.

The estimate has moreover been affected by the narrowness and crookedness of the natural channels, which were to be improved by widening, straightening, and deepening. The dredge boat and scows while employed in the improvement must frequently be interrupted in their work and removed from their position, to greater or less distances, in order to make room for the steamers and other craft and rafts passing daily through the channel, whereby the work is unavoidably delayed, and its cost greatly enhanced.

Under such circumstances it is not surprising that the cost of the improvement should be estimated at even more than double what it might really cost under more favorable circumstances, which are believed to be within the reach of those to whom the direction of this improvement has been confided, and with the means now at their disposal. The work may probably be done at less than half the estimated cost above stated.

Instead of waiting for low water stages as the most favorable for carrying on the work of dredging, this work should be prosecuted during the more elevated stages, varying from two to seven feet above extreme low water. The dredge-boat and scows now in use could be employed to advantage and for much longer periods in every year by adopting this mode of operations, and the cost of improvement would no doubt be greatly reduced thereby. The operation of dredging would not be interrupted by the frequent passing of the various craft employed in the navigation of the river. The dredge-boat being adapted to operations at the depth of 10 feet below the surface of the water, would be able to open the channel to the requisite depth, viz: three feet below the surface of extreme low water during the several stages above intimated, whereby the expense of dredging might probably be reduced to 15 or 20 cents per cubic yard, instead of 30 to 90 cents, as contemplated in the estimate before recited.

In accordance with these views the estimate would stand as follows, viz:

From the mouth of the river to the head of Naples Flats, 65 miles, the number of the bars is 16, and the aggregate quantity and cost of dredging are 65,975 cubic yards, at 20 cents.....	\$13,195 00
From Naples Flats to a point three miles above Copperas creek shoals, 85 miles, there are eight bars, and the aggregate quantity and cost of dredging, are 41,650 cubic yards, at 15 cents per yard	6,247 50
Amounting to.....	19,442 50
Superintendence and contingencies, 10 per cent.....	1,944 25
Total amount.....	<u>21,386 75</u>

Which covers the probable cost of dredging through the distance of 150 miles, from the mouth of the river upward to a point 30 miles below the town of Peoria.

Accordingly the Board recommends that the improvement of Illinois river be prosecuted with the means and appliances now in service on that river, during any or all stages of the river, varying from two to seven feet above extreme low water surface; also that the surveys be continued in accordance with the manner of conducting the same, heretofore recommended, from Copperas creek upward to head of navigation, at La Salle.

The Board would further suggest that a complete chart of the river, from La Salle to the mouth, including the island, mouths of streams, soundings of the channel, &c., &c., be prepared; also that the positions, directions, &c., of the improved channel be carefully delineated thereon, in a manner similar to that observed in preparing river guides and charts of other western rivers.

The report of G. W. Long, esq., engineer, being the only paper referred for consideration, the Board has confined itself to the expression of such opinions as that report has suggested.

Very respectfully, I have the honor to be, sir, your obedient servant,

JAMES KEARNEY,

Lieut. Col. Top. Eng., Pres't Board.

Col. J. J. ABERT,

Bureau Topographical Engineers.

BUREAU OF TOPOGRAPHICAL ENGINEERS,

Washington, August 24, 1854.

SIR: I have the honor to submit a report of the Board of Engineers upon Lake Harbors and Western Rivers, in reference to Black Lake harbor, St. Joseph harbor, and Michigan city harbor, of Lake Michigan.

The report is rather advisory than as an exhibit of plans in these several cases, but inasmuch as attention to it may involve expenditures, it is submitted, and it is recommended that a copy of it be sent to Bvt. Lieut. Col. Graham, superintending engineer of harbors on Lake Michigan, with directions to respect it as far as practicable, consistently with the state of the appropriations in the several cases.

The following is a statement of the undrawn balances in the several cases referred to in the report:

Black Lake.....	\$1,780 00
St. Joseph.....	1,487 00
Michigan City.....	7,801 00

It is respectfully recommended that in transmitting a copy of the report to Lieut. Col. Graham, his attention be called to the directions of the Hon. Secretary, as endorsed upon the report about St. Joseph on the 21st June last, in the following words:

“Where small balances, as in this case, remain unexpended, the fund had better be turned over to the office in charge of the district, for re-

pairs, and the property be so stored, or otherwise disposed of, as to relieve the government of the expense of a custodian." And which was communicated to Lieut. Col. Graham on the 22d June, but which, for the reasons given, the Board does not think applicable to Black Lake harbor.

Respectfully, sir, your obedient servant,

J. J. ABERT,

Col. Corps Topographical Engineers.

Hon. JEFFERSON DAVIS,

Secretary of War.

I do not perceive how the direction to turn over small balances for repairs could be construed to require large balances to be withheld from the completion of works for which appropriations had been made. I will repeat that I do not approve of the commencement of any additional work with the expectation that further appropriations will be obtained to complete it, but expect that every effort will be made to close the work which is commenced, and that the plan will be such as will give the best results from the expenditure authorized.

JEFFERSON DAVIS,

Secretary of War.

WAR DEPARTMENT, *August 26, 1854.*

OFFICE BOARD OF ENGINEERS,

LAKE HARBORS AND WESTERN RIVERS,

Washington, August 19, 1854.

SIR: The letter of J. R. Bowes, esq., dated the 3d instant, and referred to the Board, having been duly considered, the following report in relation to it was adopted, with instructions to communicate the same to the bureau.

That part of Mr. Bowes' letter which refers to the harbor of Black Lake is in these words: "Your communication of July 28th has been received, containing the directions of the honorable Secretary of War in relation to St. Joseph's harbor. In reply to your interrogatory: Do not the principles of these directions apply to Black Lake harbor? I think they do not for various reasons: The first is, that the work is in an incomplete state, and if left in its present condition would be perfectly useless, the pier requiring a further extension into deeper water, which was intended to have been done during the present season, if instructions had been received for resuming active operations."

"In addition to the unexpended balances now in the treasury belonging to this work, there is a quantity of piles, timber, and other materials, nearly sufficient to construct an extension of the pier to a depth of water that will allow vessels to receive and discharge their cargoes from it, and thereby make it available for use, either to the United States or the local commerce. I would, therefore, advise and urge for the consideration of the department, that the balance remaining on

hand be applied to giving the bridge pier the intended (say 200 feet) extension. By this means it will be of essential benefit to the commerce of the place, and also in the future construction as a means of receiving the materials, stone, &c. I cannot close this communication without observing, that by leaving the pier in its present unfinished condition it will disappoint the sanguine expectation of a numerous and growing community, who are now large exporters, and who are looking to the extension of this pier with great interest, and have depended upon it as an important measure that will greatly aid their commercial business, until the final completion of the improvement of their harbor."

Upon this the Board has very respectfully to say, that the plan of improvement and the order of its execution, as presented by Mr. Bowes, was favorably reported upon by the Board, under date the 9th of May, 1853, that this report received the approval of the bureau, and that the present proposition of the agent is but to carry out a measure that has been already sanctioned by the War Department to the extent of the means at its disposal. The Board has, therefore, respectfully to recommend, that the agent's views in this matter be carried out, the Board being of opinion that the reasons in favor of the proposed course are sufficient.

As to the portion of the agent's letter which treats of the harbor of St. Joseph's, the Board is of opinion that the unexpended balance of the appropriation for that place should be applied to the immediate repair of the damaged portion of the northern pier lying in connexion with the shore, which the agent represents as being very dangerously exposed, and likely to be breached if not soon attended to—a catastrophe which could not but very seriously injure the entrance.

Respecting the works intended for the harbor of Michigan city, the Board has nothing to add to the reports heretofore made by it. As to the agent's proposition to repair the dilapidated piers at the mouth of Trail creek, where the city of Michigan is situated, the Board does not now find sufficient reasons to justify a compliance with his suggestion, unless the piers when repaired may be profitably used in the execution of the plan heretofore proposed by the Board for the harbor.

With reference to the remaining topic of Mr. Bowes' letter, namely, the harbor of New Buffalo, the Board has very respectfully to say, that the plan which it proposes to recommend for its improvement has been matured, and that the report upon it is in the hands of the copyist.

Respectfully, I have the honor to be, sir, your obedient servant,

JAMES KEARNEY,

Lieut. Col. Top. Engineers, Pres't Board.

Col. J. J. ABERT,

Bureau Top. Engineers.

OFFICE BOARD OF ENGINEERS
LAKE HARBORS AND WESTERN RIVERS,
Washington, September 1, 1854.

SIR: I am instructed by the Board to submit the following report, in reference to the improvement of the Tennessee river, and to the Ohio, including Cumberland dam, as required by your letter of the 10th ultimo.

In regard to the improvement of the western rivers generally, the Board is of opinion that the entire and ultimate cost of improving any one of them for which appropriations have heretofore been made cannot be ascertained with any degree of precision. From the nature of the rivers and of their obstructions, all improvements must be progressive, and continue through indefinite periods of time; with the exception of certain individual localities, where the obstructions are of a permanent character, approximate estimates, based on adequate instrumental surveys, may be made. These exceptions may be applied in certain cases, for example: the rapids of the upper Mississippi, the falls of the Ohio, Colbert's and the Muscle shoals of the Tennessee, the Suck Pot, Tumbling shoals, and numerous other difficult passes in the river last mentioned, together with the Big and Little Chains, Le Tart's falls, Cumberland dam, &c., &c., on the Ohio river, which are among the more prominent exceptions.

The sand bars, rafts, snags, logs, stumps, impending trees, &c., on other portions of the rivers are too liable to changes and to new accumulations to admit any reliable computations with respect to their ultimate cost of removal.

Improvement of the Tennessee river.

The appropriation for this river, made and approved under date of August 30, 1852, was \$50,000, the expenditure of which was limited to that portion of the river situated between Knoxville and Kelley's ferry, about two hundred miles below.

The expenditure of this appropriation confided to Brevet Lieutenant Colonel John McClellan, corps Topographical Engineers, agreeably to whose reports and returns the whole of the appropriation has been drawn from the treasury, and no doubt expended on the improvement prior to this date.

The objects upon which the expenditures have been made, and the sums required to complete these objects have been reported by Colonel McClellan, under date of September 1, 1853.

In accordance with this and subsequent returns it appears that, at the close of the second quarter of 1854, the amount expended for work done was \$39,888 35, leaving an unexpended balance of \$10,111 65, which appears from his returns to have been applied towards the completion of sundry works in progress, subsequently to the 30th of June last.

Agreeably to the reports of Colonel McClellan, the several localities operated upon, and numerous others at which improvements have not been commenced, were duly surveyed, all of which are situated in the river, between Knoxville and the Tumbling shoals, inclusive—the num-

ber of localities at which improvements are required being forty-five, and the number surveyed being forty-two—in the distance as before mentioned of about two hundred miles.

Colonel McClellan estimates the aggregate cost of improving the Holston and Tennessee rivers, between Knoxville and Kelley's ferry, in the manner proposed in his report of September 1, 1853, at.....	\$125,425 02
From this amount should be deducted the appropriation of August, 1852, viz.....	50,000 00
And we have for the amount required to complete the improvements in the manner proposed by Colonel McClellan on this portion of the river.....	<u>75,425 02</u>

The Board is impressed with the belief that the amount thus estimated will fall far short of effecting the objects in view, which, as they understand them, contemplate the opening of a low water channel of the requisite width, and at least two feet deep, through the distance above mentioned.

The Board, moreover, questions the propriety of adopting the method of improvement proposed by Colonel McClellan in order to facilitate the passage of steamers, &c., through the very difficult pass called the Suck.

His plan of improving this formidable pass contemplates the reduction of the surface level of the pool immediately above the Suck, nearly to that of the river immediately below it (the difference in their levels being four feet four and a half inches, in a distance of 1,940 feet) by excavating a channel 330 feet wide (depth not stated) from the head to the foot of the pass.

The Board deems this mode of improvement objectionable, for the reason that an obstruction quite as formidable as the Suck would be produced at the distance of a quarter of a mile only above the Suck, where a shoal now exists, in the event that the surface of the eddy at the head of the Suck is reduced to the level proposed by Colonel McClellan.

In the absence of charts and diagrams exhibiting, in plans, profiles, sections, and soundings, the nature, extent, and character of the several localities at which improvements are required, and of the structures or methods of improvements proposed to be adopted, the Board is not prepared to approve or prescribe any plans of improvement for the localities in question.

Under this head the Board would moreover observe that the Tennessee river, below the Muscle shoals, especially at the rapids at and below Colbert's shoals, has strong claims to consideration in future appropriations for the improvement of the western rivers; also that the opening of a channel for sluice navigation from the head to the foot of the Muscle shoals is at the same time worthy of particular attention. The extent of this rapid is about thirty-six miles, and its aggregate fall about one hundred feet, giving for its average descent a little less than

three feet per mile, a declivity which may be surmounted by steamers of ordinary power and speed.

No estimate can be given of the probable cost of improving either of these important passes till careful and minute surveys, and illustrations of the same in plans and sections, shall have been made.

The improvement of the Ohio, including Cumberland dam.

The appropriation for this improvement, made and approved under the same date, viz : August 30, 1852, was \$90,000, the expenditure of which was applicable to the improvements above mentioned.

In February, 1853, C. A. Fuller, esq., was appointed United States agent for carrying on the operations provided for under this appropriation. Agreeably to the reports and returns of this agent, the amount expended up to the close of the second quarter of 1854 is \$85,314 75.

This amount includes large expenditures incurred on account of the construction and equipment of the dredge-boat Gopher, and also on the same accounts in part incurred for the light draft snag-boat Terror, which has been employed for the most part in removing obstructions from the Ohio river, while the dredge-boat was employed on the same river till an early date in November last, when it was transferred to the Illinois, for service on this river.

The balance remaining unexpended on the 1st of July last, viz : \$4,685 25, is no doubt expended, or nearly so, by this time, and will probably be accounted for by the agent at the close of the current quarter.

Of the numerous localities on the Ohio river at which improvements are needed, and for which specific methods of improvement may be devised, and their respective ultimate costs be proximately defined, the agent, C. A. Fuller, esq., has reported no less than thirty-two between Pittsburg and Louisville, omitting at this time any remarks on the subject of improving the falls at Louisville, numerous obstructions in the way of low water navigation, and in the form of ever-varying sand bars are to be met with in the Ohio below the falls, together with the rocky bars called the Grand and Little Chains, nineteen to thirty miles above the mouth of the river, and Cumberland dam, near the mouth of Cumberland river, the last three of which, and perhaps others of similar characters, are susceptible of definite plans of improvement.

At several of the localities alluded to, viz : at Deer island, Nevil's island, Brown's island, Mingo island, Twin islands, Captina island, Fish Creek island, Fishing Creek island, Williamson's island, Mills' island, Blannerhassett's island, and Buffington's island, the agent has given, in a summary manner, the quantity of stone supposed to be requisite to the completion of the improvement at each of the several points mentioned, which, in the aggregate, amounts to about 30,000 perches, at prices varying from \$1 40 to \$1 50 per perch. But as the estimates are in no case accompanied by drawings of the localities of the methods of improvement proposed to be adopted, the Board hesitates to pronounce upon their sufficiency for the purposes in view.

In regard to the dredging required in the channel at the lower end of Cumberland island, it may be observed that the operation can be

more readily and effectually performed in a stage of the river some four to six feet above extreme low water than at the low water stage; also that the dredge-boat now at Dubuque may, with propriety, be transferred to the Ohio for service at this and other points thereon in the event of another appropriation for the improvement of the Ohio.

The localities above considered, although prominent on account of the obstructions existing thereat, embrace comparatively but few of the points at which improvements are needed on the Ohio. The points not enumerated are mostly positions at which the low water channels are obstructed by shifting sand bars, and where channels must be formed on the subsidence of every considerable flood by dredging or otherwise. The method of improving these localities by the erection of jettys, wing dams, &c., of stone or other materials, is very questionable, in view of the benefits that have hitherto resulted from works of the sort heretofore constructed. Of the numerous instances in which wing dams, &c., have been built for the purpose of opening and maintaining a navigable low water channel across the sand bars of the Ohio, there are but very few examples of these having produced any good effect, and very many where they have done more harm than good. The Board is therefore of the opinion, that in almost every case where channels are to be found across shifting sand bars, the surest and most economical method of improvement consists in the use of properly constructed steam dredges, to be employed on the subsidence of every considerable freshet, and prior to the occurrence of ordinary low water.

As before intimated, however, the Board cannot decide upon the manner of improvement applicable to any of the localities alluded to, without explanatory plans and other drawings, based upon instrumental surveys, soundings, &c., of the several localities in question.

Finally, the Board is decidedly of the opinion that no reliable estimate, covering the entire amount requisite for the completion of any of the systems of improvements, either of the Ohio or of the Tennessee river, or indeed of any other of the western rivers, can be given, especially in so far as relates to the formation of navigable channels across sand bars, and to the removal of rafts, snags, logs, &c., from the navigable channels of all those rivers.

I have the honor to be, sir, very respectfully, your obedient servant.

JAMES KEARNEY,

Lieut. Col. Top. Engineers, Prest Board.

Col. J. J. ABERT,

Bureau Top. Engineers.

BUREAU OF TOPOGRAPHICAL ENGINEERS,
Washington, September 6, 1854.

SIR: I submit the views of the Board of Engineers on Lake Harbors and Western Rivers, (this day received,) in reference to the Red river.

I had the honor of receiving the copy of your letter to Mr. T. B. Gilmer, of the 18th instant, in which it is said, "a more thorough survey will be required, and will be made, to determine the best manner of directing the work."

At the time this letter was received at this office, (21st,) the subject of improving the Red river was before the Board, and in order to make known to the Board the views of the War Department, the copy of your letter, and the letter of Mr. Gilmer, were placed in the hands of the president of the Board.

As the most recent examination of the Red river under this office was in 1841, it appears to me that any plan about the Red river is rather premature before the authorized survey be made, because any judicious plan should be consequent upon, or in harmony with, the facts which that survey shall develope, therefore, (for this and other reasons,) I cannot recommend to the approval of the Secretary any more of the views of the Board than those which relate to the required investigation and survey, for which the Board has made an estimate of probable expenditure for the first year of \$3,200. But the whole work of this character will cost more.

After the desired investigation and survey have been made, the Board can digest a plan for the work, which, if approved, can be transmitted for execution to such officer or agent as the honorable Secretary shall designate.

I find an impression to exist, on conferring with the Board, that the appropriation for the Red river will have to be either expended or to be drawn out of the treasury by the 30th of next June, or it will then be liable (according to law) to be carried to the surplus fund, which is also the opinion of the comptroller.

Under these circumstances the amount, if not expended before the 30th of next June, or any unexpended balance in the treasury at that time, will belong to the surplus fund, or will have previously to be drawn out of the treasury, or the time of expenditure will have to be extended by some timely enactment by Congress.

It may be proper to remark, that in conversation with Mr. Gilmer, he said it would not be safe to send any one in that region for the required survey before about the middle of October.

Respectfully, sir, your obedient servant,

J. J. ABERT,
Col. Corps Top. Engineers.

HON. JEFFERSON DAVIS,
Secretary of War.

Lieutenant Colonel Johnston, in charge of the western river improvements, will be directed to make the necessary examinations of the raft and its vicinity, and will be furnished with a copy of the within report. The suggestion of the Board as to the most prompt and energetic proceeding is fully concurred in, but the preliminary examination proposed is deemed necessary to secure economy and success.

JEFFERSON DAVIS,
Secretary of War.

WAR DEPARTMENT,
September 14, 1854.

OFFICE OF BOARD OF ENGINEERS,
LAKE HARBORS AND WESTERN RIVERS,
Washington, August 22, 1854.

SIR: In accordance with your directions of the 10th instant, I am instructed by the Board to submit the following report in reference to the removal of the raft of Red river.

In 1841, since which time no material changes appear to have taken place in the character of the river, or in the nature of its obstructions, the Red river through the raft region was examined with much care by an officer, now a member of this Board, who subsequently prepared and submitted a report, setting forth the condition of the river and region, the character and regimen of the river, the character, extent, and position of the raft, and other impediments in the way of its navigation, and the methods heretofore adopted, and those deemed proper and advisable, for the purpose of removing the raft and other obstructions at the time of his investigations.

The methods of improvement recommended in his report were of the following import, viz:

PROPOSITION 1. It is proposed, in the first place, to remove the present raft situated in the main channel of the river, and extending downward five or six miles, the same being composed of a series of detached portions, having an aggregate extent of about three miles, together with the additions that may be made to the same prior to the date of removal.

The process by which the removal is proposed to be effected is explained in the following manner: During a period of low water, and at the earliest practicable date, the trees, logs, and other timber composing the raft, should be reduced by sawing, or otherwise, to pieces not more than thirty feet long, and no piece with its stump and roots attached should exceed ten feet in length.

Prior to the cutting of the raft in manner just mentioned, or subsequently to that operation, and during the dryer portions of the year, the inflammable materials of the raft should be consumed by fire.

At the commencement of an autumnal freshet, and during the prevalence of high water, a snag boat should be sent to the site of the raft, and employed in removing the same, by loosening and dragging out the materials of which it is composed, and by eradicating, raising, and conveying from the channel all snags, planters, stumps, &c., whether connected with the raft, or situated in neighboring portions of the river channel.

All materials loosened and removed as above contemplated, should be conveyed away and deposited in such places and in such manner as will prevent them from becoming or occasioning any new obstructions elsewhere in the river.

PROPOSITION 2. All rafts, planters, sawyers, snags, stumps, logs, &c., that may now or hereafter exist in the main navigable channel between the outlet into Red bayou, near the northern boundary of Louisiana, and the confluence of the main navigable river, with Bayou Pierre, six miles above Grand Ecore, which embraces the entire district in which the old rafts were situated, should be removed and deposited in such

manner as will leave the main improved channel entirely free of obstructions of this nature. These operations should be carried into effect and continued annually through an indefinite series of years, with the use of a suitable snag boat and other suitable craft.

PROPOSITION 3. All willow points or bars protruding into the channel and occasioning short and abrupt bends into the same, by reason of which, and the narrowness of the channel, steamers in passing them are liable to be driven against the shores opposite to such points, should be reduced, by removing the earth, sand, &c., from such points and forcibly extracting therefrom the logs, stumps, roots, &c., by means of which the points are bonded and held together, and enabled to withstand the river currents.

PROPOSITION 4. Cuts off should be formed at the gorges of bends or detours of the main river channel, wherever an acceleration of the current is deemed useful, in order to prevent the depositions of alluvion in the channel; to guard against overflows and extravasations of water from the same; to diminish the length of the navigable channel; to promote the abrasions of its sides, and contribute to its enlargement, &c., &c.

PROPOSITION 5. Trees growing on the concave shores of the main channel, and to the distance of their greatest length therefrom, should be felled and cut into lengths not exceeding twenty or thirty feet, in order to prevent their falling into the channel and becoming obstructions to its navigation. This operation should be carried into effect not only upon all parts of the main stream included within the raft region, but generally on those parts situated above it, to an indefinite extent.

Any other operations having for their object the improvement of the river navigation, and deemed proper and advisable by the superintending engineer, or others charged with the direction of the work, should also be carried into effect.

At the instance and earnest recommendations of numerous citizens of the Red river country, as set forth in a memorial of a committee appointed for the purpose, the operations contemplated in the foregoing propositions were attempted to be carried into effect under a specific contract, which was concluded at Washington under date of September 6, 1841. The superintendence of the work contracted for was confided to the late Brevet Major T. B. Linnard, Topographical Engineers, and prosecuted by the contractor with questionable energy and doubtful success, till March 6, 1844, when the superintending engineer (Major Linnard) "declared the contract void," instead of admitting its abandonment as intended, agreeably to a previous notice from the contractor, dated about the close of the preceding January.

The terms of the contract and the progress made towards its fulfilment, or the expenditures incurred on account thereof, need not be recited on this occasion, nor is it deemed advisable by the Board to carry into effect any similar provisions by means of any contract whatever.

To the foregoing propositions an additional expedient is deemed by the Board proper and advisable, which is of the following import:

PROPOSITION 6. The portions or components of the rafts, reduced in the manner contemplated in the preceding propositions should be conveyed downward to the nearest outlet bayou, and floated into

the same, and then disposed of in a manner to block up the outlet channel. The outlet flow of water, being thus partially obstructed, may be effectually intercepted by one or more rows of piles driven across the head of the bayou, after the fragments of the raft shall have been deposited therein.

With respect to the means and appliances proper to be employed in removal of the raft, the Board takes leave to suggest the following, viz :

First. The light draught twin snag-boat, constructed for the improvement of the western rivers in 1853, which, in order to render it properly adapted to this service, will need certain alterations and additions of the following description, viz :

1. The substitution of four new boilers, eighteen feet long, instead of the two boilers of greater length now attached to the boat.

2. The position of the fire-places should be changed from the front to the back ends of the boilers.

3. A reduction of about fifteen inches in the height of the furnace frames.

4. The removal of all the deck rollers, except the forward and aft rollers, and the substitution of an inclined platform or deck in their stead, on which the raised logs may more readily and conveniently be cut and slid over the stern roller.

5. The bows of the boat should be fortified by a sheathing of plank of the same thickness as the present bottom.

6. Sundry other modifications of less moment will suggest themselves in the progress of executing those above proposed.

It is believed that all the alterations and amendments above prescribed may be effected at an aggregate cost not exceeding five thousand dollars, (\$5,000.)

Second. Two twin machine boats, with such attachments as have been heretofore deemed appropriate as equipments for such craft. The probable cost of each boat, with its equipments complete, may be estimated at \$2,500..... \$5,000 00

Two yawls, with oars complete, at \$100..... 200 00

Two skiffs, with oars complete, at \$25..... 50 00

One pile driver, including a ram weighing 1,500 pounds, fitted for use on board of one of the machine boats.... 500 00

Amount required for the above craft and equipment.. 5,750 00

Third. Probable expense per month of working the craft above designated :

Expenses per month of working the snag-boat, all things included..... \$2,500 00

Expenses of working two hand-machine boats, all things included..... 500 00

Superintendence and contingencies per month, say..... 300 00

Aggregate cost per month..... 3,300 00

Annual expense of furnishing and working said craft, estimated at six working months per year.....	\$19,800 00
Annual expense of custody and safe-keeping of said craft, &c., during the remaining six months of the year at \$150 per month.....	900 00
Repairs and removals of said craft, including deteriorations, losses, &c., for one year, estimated at about one-fifth of the prime cost of the craft, say.....	6,100 00
Estimated annual expense, say for the current fiscal year.	26,300 00
To this amount should be added the probable cost of examinations, surveys, &c., for the current fiscal year, say.	3,200 00
Amount for current fiscal year.....	<u>30,000 00</u>
This amount deducted from the existing appropriation, viz., \$100,000, leaves, for the ensuing fiscal year, this sum, viz.....	\$60,000 00

In conclusion, the Board takes leave to recommend that, with the means and appliances above proposed, the work of removing the existing raft at and in the neighborhood of Phelps's landing (so called) be commenced as early as practicable, and prosecuted with diligence till the obstructions are effectually removed from the main navigable channel of the river, and a free passage for steamers be opened from that point downward to the mouth of the river. Also, and in the meantime, that a thorough reconnaissance or examination, with such instrumental surveys as may from time to time be found needful, be made on other parts of the river, including bayous, lakes, &c., with a view to ascertain the feasibility of other navigable channels leading upward through the Bayou Pierre to Shreveport, and thence upward through Cross lake, Soda lake, Red bayou, &c., to a suitable point on the river above the head of the present raft.

In view of the character and condition of the raft region, which embraces a length of about eighty-four miles and a width varying from five to twelve miles, or an area of about seven hundred and fourteen square miles, through which the waters of Red river flow in a multiplicity of meandering channels, and through numerous bayous, lagoons, lakes, &c., all abounding in outlets and inlets, through the former of which the water of the main channel is more or less exhausted, to the injury of the navigation, and through the latter is again restored to the main channel—in the former case the facilities of the navigation being impaired at various points, while in the latter they are again restored on other portions of the river; in view of all which the proposed examination, accompanied by instrumental surveys and soundings at particular points, for determining the width, depth, &c., of the channels, and of the volumes and velocities of the water passing them, seems highly expedient and proper. At certain points in the existing navigable channel, owing to the exhaustions above adverted to, the channel currents are reduced almost to stagnation, while in a few instances these currents are completely reversed in certain stages and

conditions of the river, giving occasion in both instances to the blocking up of this channel, by sedimentary deposits, and to the formation of bars impassable in a low stage of the river.

The leading objects of the examination and surveys should be the discovery of the most favorable positions and directions through which the water, especially in a low stage, may be made to flow, with a current as nearly equable as possible, through the entire raft region; also, of the localities through which, and the means by which, a permanent navigable channel may be found, and kept open and free from obstructions, through the entire raft region, commencing at the mouth of Bayou Pierre, near Grand Ecore, and extending upward to the head of Red bayou, twenty or thirty miles above the head of the present raft.

The Board takes leave to add, by way of postscript, that since the preparation of the preceding part of this report, the copy of a letter from the honorable Secretary of War to James B. Gilmer, esq., dated on the 15th instant, has been referred to its consideration. This letter relates to the removal of the raft, and contains the following remark, viz: "A more thorough survey will be required and will be made to determine the best manner of executing the work."

In reference to this subject, the Board takes leave respectfully to observe, that the want of the means and appliances, contemplated in the foregoing report, exclusive of funds, and the present low stage of the river, which is likely to continue till the occurrence of the usual autumnal freshets, which are expected to take place in the month of October, are the only impediments in the way of immediate operations for the removal of the existing raft; also that the river is at a stage too low to admit of the requisite examinations and surveys deemed needful in order to determine the most favorable passes through which, and the system of improvement by which the most permanent and efficacious channel for navigation can be found.

The Board would accordingly suggest that the course most proper to be pursued in reference to these and other objects, is the same as that proposed and recommended in the foregoing report, viz: that the removal of the raft and the execution of the examinations and survey be undertaken simultaneously, and prosecuted with energy and dispatch, till their final and satisfactory completion.

This course is deemed worthy of special consideration for the reason that the present exigencies of the river commerce are exceedingly pressing, and call for the removal of the raft as early as practicable; also that the inadequacy of the existing appropriation (\$100,000) for the double purpose of executing the surveys and of opening any new channel, other than that obstructed by the present raft, is manifest.

I have the honor to be, very respectfully, your obedient servant,

JAMES KEARNEY,

Lieut. Col. Top. Eng., Pres't Board.

Col. J. J. ABERT,

Bureau Topographical Engineers.

OFFICE BOARD OF ENGINEERS,
LAKE HARBORS AND WESTERN RIVERS,
Washington, September 1, 1854.

SIR: The letter of Brevet Lieutenant Colonel Graham, general superintendent of harbors of Lake Michigan, of the 19th ultimo, having on the 31st been referred to the Board with the following endorsement of the bureau, to wit: "Respectfully referred to Board of Engineers, which will please state objections to any part, or if modifications proposed will require any additional expenditures to those approved plans," I am instructed to make the following report thereon:

Under the head of Manitowoc, Lieutenant Colonel Graham says: "I would recommend that I be authorized to increase the width between the piers there, from 200 feet, the width now prescribed, to 240 feet. The ground will be readily relinquished for that object, and I feel satisfied that the force of the current during the spring freshets would as effectually open the channel if of that width, and it would much increase the facilities for entering the harbor."

On this point the Board has to remark that as the distance of 200 feet between the piers for this harbor, was not adopted from precise information of the volume of water thrown out by the river, but on the recommendation of the then general superintendent, and in consideration of the width in question being frequently adopted and found advantageous for lake harbors, it has no hesitation in recommending, in case the necessary land shall be relinquished, and further investigation confirm the opinion that the force of the current of spring freshets will be effectual in opening a channel of 240 feet, that authority be given to adopt that width; with the condition, however, that the entrance between the piers be made to conform to the direction of the south bank of the river above, by giving the south pier a position on a line parallel to the present designed line, at the required distance.

In that part of the letter which refers to Sheboygan, Lieut. Col. Graham holds the following language: "For want of sheath-piling on the exposed faces of the terminating cribs of the two piers, they have both dipped to the northeast from being undermined by the lake current. This has twisted and ruptured some of the timbers, but the necessary repairs can be conveniently made as the damage is chiefly above the water surface."

It is inferred from the accompanying estimate for this work, for it is not expressly recommended, that Lieutenant Colonel Graham proposes to apply sheet-piling to the outer ends of the piers in question. This course the Board approves, but takes occasion, at the same time, to remark that the tilting of the pier is not, in its opinion, due to the absence of this piling, but to the construction of the cribs with tight bottoms, which does not allow the ballast-stone to fall on the bottom or bed of the lake, and thus compensate for any sand that may be carried away either by the currents or the waves.

At Kenosha, Lieutenant Colonel Graham recommends: 1. Sheet-piling the outer cribs, and one or two places of the piers. 2. Completing the sheet-piling from the west end of the north pier to the shore

in the river. 3. Surveying the harbor. And 4. Dredging the harbor to 12 feet. He also provides in his estimate for the pay of the agent, and the hire of an office, &c. The Board in the report of 3d ultimo designated, by direction of the honorable the Secretary of War, the objects under the general plan for this harbor, dated the 18th July last, which, in its opinion, should be carried out with the balance on hand. These objects were: 1. To fill in behind the sheet-piling and piers. 2. To build up the outer crib of each pier. And 3. To dredge from deep water in the lake to 12 feet in the harbor.

The only measure positively common to both recommendations is that for dredging. The cost of this operation is stated by the Board at \$3,826 70, and by Lieut. Col. Graham at \$1,000, or less than the first by \$2,826 70, which sum, in the opinion of the Board, may very profitably be applied in case the requisite depth into the harbor can be obtained for the lesser price named, in constructing the proposed sheet-piling, the cost of which is set down at \$2,690 70, more especially as it will suffice, considering the necessity for filling in behind the present sheet-piling and the piers will thus be obviated. To carry out the remaining measure of building up the outer crib of each pier (\$613 30,) and pay the agent, (\$360,) and hire an office, &c., (260 34,) and besides leave a balance of \$285 66 for the survey, the expense of which, considering the very limited means at disposal, and the urgency of the required construction and repairs, should for the present be limited to that sum.

In reference to that part of the letter under the head of the same harbor, which relates to dredging in the mouth of the river, now connected by the channel between the piers with the lake, the Board has only to remark, that fully admitting the value of an increased capacity for the harbor, it cannot, under the rule of long established usage in like cases, approve of the measure so far as its execution depends upon the government.

The proposition of Lieut. Col. Graham to repair the piers at Chicago above the water level with oak timber, meets the approval of the Board for that portion of each which lies beyond the protection given by the accumulation as lake drift. It will be time enough, in the opinion of the Board, on the completion of these repairs, to consider the propriety of extending them throughout.

The letter of Lieut. Col. Graham is returned.

I have the honor to be, very respectfully, your obedient servant,

JAMES KEARNEY,

Lieut. Col. Top. Eng., President of Board.

Col. J. J. ABERT, *Bureau Top. Eng.*

BUREAU OF TOPOGRAPHICAL ENGINEERS,

Washington, September 6, 1854.

SIR: I have the honor to submit the plan and estimate of the Board of Engineers on Lake Harbors and Western Rivers, received this day, to the consideration and decision of the War Department.

The recommendations of the Board are that the first work to be done is that of improving the Des Moines rapids.

The estimate of the Board for the work it recommends on these rapids is \$54,336.

The balance of the appropriation, after the foregoing work shall have been completed, it is recommended by the Board, should be expended on Lamalles Chain, a part of the lower or Des Moines rapids. With the views of the Board on these subjects the undersigned fully concurs.

It will be seen that the course recommended by the Board contemplates that the greater part of the appropriation in reference to these rapids, namely, the Des Moines rapids and the Rock Island rapids of the Mississippi, be expended on the Des Moines rapids as the most efficient mode of disposing of the unexpended balance of the appropriation.

Respectfully, sir, your obedient servant,

Hon. JEFFERSON DAVIS,
Secretary of War.

J. J. ABERT,
Col. Corps Top. Engineers.

Recommendation of the Board approved as to the amount to be expended on the Lower and English Chains. The remainder of the balances on hand must be expended on the Rock River rapids; no part of the appropriation being, by its terms, applicable to Lamallas Chain.

JEFFERSON DAVIS,
Secretary of War.

WAR DEPARTMENT, *September 14, 1854.*

OFFICE BOARD OF ENGINEERS,
LAKE HARBORS AND WESTERN RIVERS,
Washington, August 26, 1854.

SIR: The Board having duly considered the letter of the bureau of the 10th instant, I am instructed to submit the following report upon that part of it which relates to the rapids of the Mississippi.

On a former occasion the attention of the Board was directed to this subject, and a report thereon was submitted under date of February 23, 1853.

For want of the requisite details of the surveys that had been made previously to that date, and in the absence of any plans, sections, &c., indicating with the requisite provision the true character and condition of the channel to be improved, except in so far as relates to a general chart of Des Moines and Rock Island rapids, respectively, on a scale too small to indicate the nature and extent of the obstructions contemplated to be removed, the Board was constrained to supply numerous deficiencies by assumptions instead of accurate data, and to present its opinions in regard to the quantity and cost of the work required on premises of a character somewhat questionable. Accordingly, they assumed equal quantities of rock excavation for both of the rapids above mentioned, viz., 100,000 cubic yards for each, and equal prices per cubic yard, viz., \$2 50, including all expenses incident to the execution of the work on each of the rapids, and giving for the aggregate quantity and cost of improving both rapids 200,000 cubic yards at \$2 50—\$500,000.

In a subsequent report of the Board, submitted under date of February 7, 1854, on the amounts required for the completion of the improvement of both rapids, is the following remark, viz:

"The estimated cost of completing these works (viz., in the aggregate \$464,000) is founded on the reports of Captain Lee, Corps of Engineers, dated December 6, 1837. Recently a more minute examination of the ground and the consideration of the enhanced prices of labor and materials led to the opinion that the ultimate cost of these works will greatly exceed the amount stated. These remarks apply to the Rock Island and Des Moines rapids improvements, the estimates for which are about to be revised."

The examination alluded to in the foregoing extract has been made, and a report thereon has been rendered by Lieutenant G. K. Warren, under date of the 6th of April last, who was charged with the surveys and investigations deemed necessary to a full and clear understanding of the localities, nature, and extent of the work required to be done, in order to effect the desired improvement of both of the rapids.

The probable cost of the work, as reported by Lieutenant now Colonel Lee in 1837, and by Lieutenant Warren in 1854, differ materially. The Board are not, however, sufficiently informed as to the nature of the work and of the circumstances under which it must be performed to give a decided opinion upon this point. They feel constrained, therefore, to exhibit the estimates of those two officers, and to adopt a mean between them for the cost, as the nearest approximation to the actual cost, at which they are now able to arrive.

In Colonel Lee's estimate of December 6, 1837, as based on surveys and examinations made under his direction, and with the view of opening a continued low water channel 200 feet wide and 5 *feet deep* throughout, are embraced the following summary items, viz:

Excavation of the entire channel from the head to the foot of the Des Moines rapids 11,005 miles, 94,811 cubic yards, at \$2.....	\$189,622 00
Excavation of the entire channel from the head to the foot of Rock Island rapids 14 miles, 77,329 cubic yards, at \$2.....	154,658 00
Total for both rapids 172,140 cubic yards.....	<u>344,280 00</u>

In Lieutenant Warren's estimate of April 6, 1854, as based on surveys and examinations made by him with a view to the formation of a continued low water channel 200 feet wide and 4 *feet deep* throughout, are embraced the following summary items, viz:

Excavations of the entire channel from the head to the foot of the Des Moines rapids 10½ miles, 89,353 cubic yards, at \$10 per cubic yard.....	\$893,530 00
Excavation of the entire channel from the head to the foot of Rock Island rapids 13 miles, 45,015 cubic yards, at \$10 per cubic yard.....	450,150 00
Total for both rapids 134,368 cubic yards at \$10..	<u>1,343,680 00</u>

It should be observed that the difference between the quantities of excavation estimated by Colonel Lee and Lieutenant Warren, respectively, may be accounted for in part by the fact that about 2,000 cubic yards of stone were removed from the Des Moines rapids, under the direction of Colonel Lee, subsequently to the date of his report of 1837, and more especially by the difference in the depths of the channels contemplated in the estimates of those officers—that of Colonel Lee being five feet, and that of Lieutenant Warren being only four feet. Moreover, the price in the estimate of Colonel Lee is only \$2 per cubic yard, no allowance being made for superintendence and contingencies; whereas the estimates of Lieutenant Warren provides for a cost of \$10 per cubic yard, which is intended no doubt to cover all expenditures incurred on account of the improvements, except perhaps charge for superintendence.

They would further take leave to remark, that a mean between the prices per cubic yard, as estimated by Colonel Lee and Lieutenant Warren, viz., \$6, accords very nearly with the price stipulated to be paid, viz., \$5 85, for the improvement of both rapids under contracts made in February last.

By taking the quantity of excavation as reported by Lieut. Warren, and the mean of the prices as estimated by Col. Lee and Lieut. Warren, viz., \$6, the estimate will stand as follows, viz :

For the Des Moines rapids, 89,353 cubic yards, at \$6 per cubic yard	\$536,118 00
For the Rock Island rapids, 45,015 cubic yards, at \$6 per cubic yard	270,090 00
Total for both rapids, 134,368 cub. yds. at \$6 per cub. yd.	<u>806,208 00</u>

Agreeably to returns made to the Bureau of Topographical Engineers, it appears that of the appropriation made for the improvement of the rapids of the Mississippi in August, 1853, viz., \$10,000, a balance of \$90,263 remains unexpended. The Board is of opinion that the expenditure of this balance should be confined to the improvement of the rapids at the "lower chain and English chain" of the Des Moines rapids. The estimated quantity of rock to be blasted and removed on these two chains, and the probable cost thereof, are as follows, viz :

For the lower chain, 4,813 cubic yards, at \$6.....	\$28,878 00
For the English chain, 4,243 cubic yards, at \$6.....	25,458 00
Amount for both chains, 9,056 cubic yards, at \$6.....	<u>54,336 00</u>

This amount deducted from the balance above stated, viz., \$90,263, will leave for superintendence and contingency, and for operation on other portions of the Des Moines rapids, \$35,927, which may be expended with convenience and to advantage in the partial improvement of Lamallas chain, which is the next above the English chain.

The reasons of the opinion of the Board, as above signified, are briefly as follows, viz :

1st. The improvement of the Des Moines rapids, and of the Rock Island rapids, are provided for by separate contracts, and may with propriety, and with far greater convenience to the contractor, and with equal benefit to the public, be carried on separately.

2d. The improvement of the Des Moines rapids, commencing at their foot and proceeding upward, is likely to subserve the public interests more effectually than a very partial improvement on both rapids.

3d. The distance from the Des Moines to Rock Island rapids is about 140 miles, which will render it necessary that two distinct sets of apparatus, each including all varieties of water craft, machinery, tools, &c., in order to prosecute the improvement of both rapids at the same time. In view of the limited means now applicable to these branches of the service, compared with the amount of the estimated cost of improving both rapids, it would seem onerous, if not ruinous, to compel the contractor to carry on both improvements simultaneously.

4th. The expenditure of the entire balance (\$90,263) on the improvement of the Des Moines rapids, would not be likely to produce greater facilities for the navigation of these rapids than those now existing on the Rock Island rapids, without any additional improvements.

In conclusion, the Board takes leave to observe in reference to the sufficiency of the river, in its lowest stage, to fill a channel 200 feet wide and 4 feet deep, in which the current may in the same stage have a velocity of five miles per hour. Lieut. Warren has informed the Board that, in accordance with estimates from observations made by him at sundry points in a very low stage, the entire volume of the river passing both rapids is sufficient to fill a channel 600 feet wide and 4 feet deep, with a current of six miles per hour, as signified by the following statement in his own words, viz : "I have no hesitation in saying that the amount of water passing at the lowest stage is capable of maintaining a velocity of six miles per hour in a channel four feet deep and 600 feet wide, the quantity required to accomplish this being 21,120 cubic feet per second.

I have the honor to be, sir, very respectfully, your obedient servant,

JAMES KEARNEY,

Lieut. Col. Top. Eng., Pres. Board.

Col. J. J. ABERT,

Bureau of Topographical Engineers.

BUREAU OF TOPOGRAPHICAL ENGINEERS,

Washington, September 2, 1854.

SIR: I have the honor to submit the final report of the Board of Engineers, (received this day,) in reference to the harbor of New Buffalo, State of Michigan.

This may with propriety be considered as a new harbor, as previously to the appropriation in the law of August, 1852, nothing had been expended by the United States in reference to this harbor, except

for the making of surveys. The Board has therefore presented, what may with propriety be called, in reference to this harbor, an original plan.

The appropriation for this harbor, in the law of August, 1852, was \$8,000, of which there now remains in the treasury an unexpended balance of \$2,189.

The expenditure which has been made of that appropriation has been chiefly for the procuring of materials under contract.

The estimate of the work by the Board is \$46,805, and supposing the materials on hand and the unexpended balance to be about \$6,805, it will leave as yet to be provided for the work \$40,000.

Under existing circumstances I agree with the Board, that "no part of the said plan can be completed with the means at the disposal of the department, so as to render it effective."

Therefore, it is respectfully recommended, that measures be taken to dispose of the materials on hand, and that the unexpended balance be reserved for necessary purposes, in reference to the preservation of the materials which have been procured, should they not be sold.

Respectfully, sir, your obedient servant,

J. J. ABERT,

Col. Corps Topographical Engineers.

Hon. JEFFERSON DAVIS,
Secretary of War.

Returned with instructions to devise a plan for the expenditure of the appropriation, in the manner most conducive to the end for which it was appropriated. Any material on hand which cannot be used on such plan will be sold, and the proceeds applied to the work.

JEFFERSON DAVIS,

Secretary of War.

WAR DEPARTMENT, *September 18, 1854.*

BUREAU OF TOPOGRAPHICAL ENGINEERS,
Washington, September 30, 1854.

SIR: I have the honor to submit the revised plan of the Board in reference to the harbor of New Buffalo.

The impression with me, from the report of the Board, is, that with present means nothing effective can be done, referring to any substantial progress of the work, or which by any good results will render the work effective.

The expending of the present small balance of the appropriation would be of no useful account, unless in anticipation of future means; and, therefore, in my judgment, the better course is to retain present balance, to dispose of the materials on hand, and to use present balance only to preserve said materials until they shall have been disposed of.

Considering the advanced state of the year, and the climate of New Buffalo, nothing can be done there before the next season in the way

of depositing any crib-work in place; but from now till then is a highly favorable period for the procuring of material, the framing of cribs, and for the procuring of requisite auxiliary machinery.

Respectfully, sir, your obedient servant,

J. J. ABERT,

Colonel Corps Topographical Engineers.

Hon. JEFFERSON DAVIS,

Secretary of War.

The chief of Topographical Engineers is called on for an explanation of the fact reported by the Board of Lake Harbors on Western Rivers, to wit: that a large part of the appropriation for New Buffalo, Michigan, has been expended in procuring material, and yet that material is in such proportions as to render it unavailable for any part of the work. And, also, to state whether boats and machinery constructed for places at which the whole appropriation has been expended cannot be properly transferred to New Buffalo, and the balance of that appropriation be thus saved from the higher expense of new boats and new machinery.

JEFFERSON DAVIS,

Secretary of War.

WAR DEPARTMENT, *October 4, 1854.*

OFFICE BOARD OF ENGINEERS,

LAKE HARBORS AND WESTERN RIVERS,

Washington, August 19, 1854.

SIR: The bureau having called the attention of the Board to the improvement of the harbor of New Buffalo, Michigan, I am instructed very respectfully to say that a plan for that object was submitted by the agent, J. R. Bowes, esq., under date September 19, 1853, and referred to this Board for its opinion. Upon this the Board presented its views, as may be seen in Senate Document No. 1, thirty-third Congress, first session, page 213. Since that time the Board has not received any new information affecting the question. But it has had time to give to the subject more attention than it was then in its power to bestow, and it has compared with Mr. Bowes' plan those which were formerly presented to the bureau upon the same subject, namely, by Lieutenant Berrien in 1835, and by T. B. W. Stockton in 1845. The essential features of all being the same, namely, to cut a navigable channel through the sand which separates Galien river, on which the town of New Buffalo is situated, from the lake, and to secure the sides of the cut with sheet-piling, and then to extend, in connexion with it, two parallel piers into the lake, the cut or opening to be carried from the requisite navigable depth of water in the lake to deep water in the river. The Board approves of these features of the plan, but it differs from the projectors in several particulars, the details of which it will now notice, remarking, however, at the outset, that many of the facts necessary to an enlightened consideration of the subject are wanted, and that, generally, the information in its possession is by no means as

full and accurate as it could wish, and that there is, moreover, a want of agreement in relation to some facts bearing upon the details of the plan, which it finds very embarrassing. The most important of these relate, first, to the soundings outside of the coast line, which do not agree, and do not even furnish points of comparison, for which reason it is that the length now proposed for the piers is only provisional—the Board not having the means of fixing it definitively; moreover, for the same reason, the direction to be given to the outward end of the windward pier cannot now be accurately determined, and because we do not know with certainty the direction of the prevailing wind, which is an element of the problem of the direction to be given to the piers. Again, in the configuration of the lake shore, and of the shores inside of the general coast line, there are to be found very notable disagreements between the maps and plans furnished by the several officers and agents who have presented their views upon the subject. Having carefully compared them, however, the Board has found reason for provisionally adopting the map which Mr. Bowes has presented, with his reports of February 10, 1853, and November 15, 1852, and it has projected upon it the outline of the improvement it would recommend, subject, of course, to such modifications as the actual form of the ground, and of the other elements of the problem, may suggest.

The harbor was surveyed in 1835, under the directions of Lieutenant J. M. Berrien, who then reported a plan for its improvement. In this report he says that his survey embraced about one mile along the shore of the lake, and about the same distance up the stream, the shores, channels, and edge of the hard ground, as well as the depth of water, being accurately determined and laid down upon the map which accompanied it, the soundings being carried into the lake to a depth of three fathoms, which depth he says is found immediately without the outer bar, meaning thereby the outward ridge of sand, of which ridges there are several that range nearly parallel with the coast.

Lieutenant Berrien describes Galien river as being small, varying from 60 to 100 feet in width, and for a mile and a half above its then mouth, winding through a marsh about a quarter of a mile wide, then filled up to the level of the water and covered with the usual marsh vegetation. The lake shore is sand, and is bounded by ridges of sand varying from 20 to 50 feet high, and terminating in flats near the mouth, the bottom of the stream being of mud, and the depth of water in the river above the point at which it assumes the character of a delta, 9 to 14 feet. The width of the stream at its mouth was then between 60 and 70 feet, with a minimum depth of three feet. At the time of his survey, the current at the mouth had a velocity of one and a half miles per hour, and during freshets, the velocity was three miles. He states, also, these velocities, &c., are a minimum, and are influenced as well by the force and direction of the winds as by the freshet. He also says that the lake shore is bolder here than at any other point within the region of sand examined by him, and that there was then 12 feet of water within 550 feet of the shore, and that the 18 feet curve was found only a few yards further out.

In 1839, T. B. Stockton, esq., the then agent at New Buffalo, presented to the bureau his views upon the subject of this improvement,

together with a map of the harbor. The Board finds in these views nothing requiring special notice, and therefore passes to the consideration of the plan submitted by Mr. Bowes on November 15, 1852, and more especially to his letter upon the same subject, dated February 10, 1853, with the chart accompanying it; copies of both of which are hereto annexed, as reference is made to them in treating of the plan proposed by him, as well as the plan the Board now recommends.

When formerly the Board had this subject under consideration, it was viewed only in its connexion with the statement of the annual estimates, and the report it made in relation to New Buffalo had reference solely to the report of the agent, Mr. Boyes, as may be seen by the following extract:

“The design for the improvement of this harbor, as described in the annual report of the agent, J. R. Bowes, dated September 19 of the present year, is to cut a channel 300 feet in width through the sand spit separating the mouth of Galien river, which at this point enlarges into a bay or small lake, from Lake Michigan, and to secure its sides with sheet-piling, and then to extend in connexion with it two piers into the lake of different lengths, the northern or weather pier to be 1,600 feet in length, extending over all bars, and terminating on a clay bottom in twenty-five feet water; the lee pier to be 700 feet in length, and terminating in 10 feet water.”

He estimated the cost of executing the work at \$91,955. The Board approved the main features of this plan, but it saw no reason, “with the facts then before it, to adopt the very unequal lengths given to the two piers.” And the Board goes on to say, with reference to the project, that a final opinion on this and other points it deems proper to reserve for further consideration. Conceiving, however, that the piers should extend out at least to ten feet water, it approves of 700 feet each as the length of the piers, a length that would seem, by the report of the agent, to be necessary in order to reach that depth. Confining, then, the plan to two piers of 700 feet each, and leaving the cost of securing the sides of the cut until these are completed, the estimate would stand thus:

North or weather pier, 700 feet.....	\$19,956 90
South or lee pier, 700 feet.....	19,956 90
Labor on the piers.....	11,468 70
	51,382 50
Contingencies, ten per cent.....	5,138 25
Total amount.....	56,520 75
Amount already appropriated.....	8,000 00
Leaving to be provided.....	<u>48,520 75</u>

Appended to Mr. Bowes' report and general estimate of November 15, 1852, is a separate estimate of the cost of 300 feet of pier work,

commencing on the shore of the lake, and extending thence to eight feet water, amounting to \$11,385.

In view of the very limited amount of his means, Mr. Bowes proposes to restrict his operations in the first instance to the construction of these 300 feet of pier, which he would now sink with the upper courses one foot above the water, to connect and secure them to remain until another season, when any balance remaining of the appropriation could be applied as far as it would go towards their completion; and he proceeds to say: "It is not desirable, or the common practice, to build up piers to their intended height until the cribs are perfectly settled, which requires, in sandy foundations, one winter." Mr. Bowes concludes his report, as has been already said, with a detailed estimate of the total cost of erecting the 300 feet of pier, and he also gives a separate estimate of the quantity of *materials* required for that part of the structure, with a view to the application of the existing means in the best manner, and in order to the judicious apportionment of these means between the materials and workmanship, so as to leave sufficient for the construction. Moreover, he suggests that in closing the contracts for this locality, reference should be had to these estimates, and he asks to be instructed to build the requisite machinery for the work.

From the preceding statement we find that the existing appropriation is quite inadequate to the execution of a complete plan of improvement for this harbor, and therefore that Mr. Bowes is constrained to propose the application of the present available means to the execution of a portion of it, such that while it may constitute an integral part of a general plan, it shall, as a separate and independent work, be useful to navigation, should the means of completing it upon the original scale cease to be provided.

The Board is of opinion that a short pier, 300 feet, extending from the shore to no more than eight feet of water in the lake, could be of little value to navigators, and it cannot therefore advise the department to undertake that portion of the work, unless assured of being able to command the means of extending the proposition so as to establish in connexion with the pier, a navigable communication between the lake and the river; an extension that would involve the probable cost of excavating across the sand spit, and of sheet-piling the sides of the crib. For this would be required an additional sum of say \$5,528, which, added to Mr. Bowes' estimate of \$11,385 for the pier, would amount to \$16,915, or \$8,913, over and above the existing appropriation. This improvement, if even carried to no greater depth than eight feet, might give access and shelter to the smaller class of vessels.

Having thus noticed some features of the plans heretofore proposed for the improvement of this harbor, it remains for the Board to place its own project, and the considerations on which the same are based, before the department.

In the opinion of the Board, then, the works for the improvement of New Buffalo, should consist of the usual parallel piers, projecting into the lake, of a system of plank-piling, beginning at the inner ends of the piers and extending to the deep water of the river, and of dredging a channel between the piers and plank-piling, to extend from at least 10

feet of depth inside to 11 or 12 feet of depth into the lake, the probable length of the pier work to be about 1,050 feet, and of plank piling probably 1,180 feet, as shown upon the plan.

The location of the piers, and consequently of the entrance into the river, has been a subject of some consideration with the Board. The length of the beach, within the limits of which there is any room for a choice, is about 1,000 yards.

Formerly the outlet of Galvien river was at the northern end of this space. At present it discharges itself into the lake at the southern end. At the time of Lieutenant Berrien's survey, in 1835, the outlet occupied the position marked B on the chart. In 1845 it occupied the position C; and last year (1853) it had advanced to the position D. Prior to the time of Lieutenant Berrien's survey, it is said to have discharged itself at A; which is probable from the form and direction of the channel of the river immediately inside of and in contact with the beach.

Beyond the extreme limits now mentioned there is no choice, because to the north and south of these limits there are high sand ridges, varying, as Lieutenant Berrien informs us, from 20 to 50 feet in altitude, through which, to effect a practicable passage, would be as expensive as it would be uncalled for. As to the proper position there for the piers or entrance, viewing the question in an engineering point of view, the Board has no hesitation in recommending the position marked A upon the chart.

For the depth of the channel the Board has followed the practice of the bureau, which considers 11 or 12 feet as sufficient for the largest class of vessels in the rough waters of the open lake, while for the smooth waters of the harbor the Board proposes 10 feet. Accordingly the Board has estimated for a channel to extend from the deep water of the lake to the deep water of the river, or from 12 feet outside to 10 feet inside of the piers.

The width of the channels of the several harbors on the lakes differ from each other, and for the one now under discussion, various widths have been proposed. Lieutenant Berrien proposes 180 feet. Mr. Stockton proposes 200 feet, and Mr. Bowes estimates for a channel of 300 feet. For a harbor not likely soon to attract a very large amount of trade, a width of 180 or 200 feet, might be more than necessary for the wants of the local commerce; but New Buffalo lies upon a dangerous coast, and in stormy weather will undoubtedly be often resorted to for refuge, and will demand more room than it would be likely to require as a mere commercial port. For this reason the Board adopts the width recommended in Mr. Berrien's report, viz: 180 feet.

With respect to the probable length it may be necessary to give to the piers in order to fulfil the condition that they shall reach a depth of 11 or 12 feet, the Board finds some difficulty in the conflicting and insufficient information which it has upon that point.

Lieutenant Berrien in his report of January 13, 1836, calculates for a length of 520 feet from the shore, for the north pier, and for a length of 560 feet from the shore for the south pier, both of them into 12 feet water, exclusive of the pier-heads.

Mr. Stockton in 1839 calls for a length of 810 feet for the north pier, and 730 feet for the south pier, into 12 feet water.

Mr. Bowes requires the piers to extend into the lake; the north pier to 25 feet water, 1,600 feet, and the south pier into 10 feet water, on a length of 700 feet.

Finally, the Board taking for its guide the chart compiled by Mr. Bowes, has decided to take for the length of the leeward pier 510 feet, and for that of the windward pier 810 feet. The additional length given to the windward pier being necessary for the protection of the head of the leeward pier, if the storms come from the north (mag.) as is supposed.

In view of the exposure of this part of the coast, the great depth of the sand, the steepness of the shore, and probable liability to extensive settlement of the cribs, the Board proposes to increase the breadth of the piers to 24 feet.

To effect the improvement of the harbor of New Buffalo, upon the general plan proposed by the Board, there would be required the sum of \$46,805 25, according to the following estimate:

Estimate of the cost of constructing two piers at New Buffalo, Michigan, to extend to a depth of 11 or 12 feet water in the lake. The aggregate length of both piers 1,320 feet, or 44 cribs 30 feet long and 24 feet wide each, and to rise six feet above the surface of the lake.

COST OF ONE CRIB.

24 pine side-pieces, 12 by 12, 31 feet long, 744 feet, at 10 cents	\$74 40
12 pine centre-strings 30 feet long, 360 feet, at 10 cents..	36 00
36 pine ties, 12 by 12, 24 feet long, 864 feet, at 10 cents..	86 40
8 pine bottom-timber, 12 by 12, 30 feet long, 240 feet, at 10 cents	24 00
730 pounds round iron, 1½-inch, for bolts, 3 feet long, at 4½ cents	32 85
42 cords of stone, at \$8	336 00
Carpentry, labor, &c.	150 00
1,800 superficial feet 3-inch pine plank flooring, at \$14 per M	25 20
25 pounds 6-inch spikes, at 7½ cents	1 87
Estimated cost of one crib	766 72
Estimated cost of 44 cribs	33,735 68
Add for contingencies, 10 per cent	3,373 57
	37,109 25
For plank-piling channel inside of shore line	4,578 00
For dredging	5,118 00
Total cost of improvement	\$46,805 25

It will be seen from the preceding estimate, as well as from that of the agent, that the appropriation will not suffice for the execution of the entire plan of improvement which the Board recommends.

The Board is of opinion, further, that no part of the said plan "can be completed with the means at the disposal of the department," so as "to render it effective."

Very respectfully, I have the honor to be, sir, your obedient servant,
JAMES KEARNEY,

Lieut. Col. Top. Eng., Pres't Board.

Col. J. J. ABERT,

Bureau Topographical Engineers.

OFFICE OF PUBLIC WORKS,

Michigan City, February 10, 1853.

COLONEL: As some changes have taken place at the harbor of New Buffalo, Michigan, since the last surveys were made, which may be unknown to the Board of Engineers, and believing these changes will have an important influence in determining the specific location of the piers, by changing it from the present mouth to a point further east, and although it will in no way modify the general plan of piers, which, I presume, will be that of the usual parallel piers, I have considered it my duty, in conformity with the instructions of Colonel Abert, chief of the corps of Topographical Engineers, to communicate to you these changes; and to more fully exhibit them, I hereby inclose a rough diagram, compiled from the surveys of Lieutenant Berrien in 1835, and of William Gamble, esq., United States agent in 1845, and also my own recent examinations, to which I most respectfully refer. Since the last surveys were made at this harbor, the Michigan Central Railroad has been extended to this place, and, to give it a connexion with Lake Michigan, it has constructed at New Buffalo, across the Galien river, near its mouth, a strong and substantial bridge, resting on piles closely driven. It has also connected this bridge with two bridge piers extending into Lake Michigan, as per diagram. The construction of this bridge across the Galien river has divided the harbor into two portions, one extending from the bridge to the mouth of the river, quite limited in capacity; the other portion is east of the bridge, which includes the main part and deepest water of the river, affording ample capacity and convenience for the future commerce of New Buffalo. If the piers should be located at the present outlet, without the bridge above mentioned should be removed, which would be attended with great expense and disadvantage to the Central Railroad Company, the harbor would be quite limited in extent, and communication with the main river would be impossible. The harbor of New Buffalo consists of an enlargement of the Galien river in the vicinity of its mouth into a lagoon or small lake, which is separated from Lake Michigan by a ridge of sand thrown up by the action of the lake. Its average height is about four feet above the level of the lake, differing in its breadth from four hundred to six hundred feet. The river, by its spring and fall freshets, has, at different times and places, forced a passage through this ridge and obtained an outlet. In summer its outlet is entirely closed by the action of the lake, and as the drift of the lake inclines towards the west, the outlet has changed in that direction. Four differ-

ent outlets are known to have existed at different periods, as marked (A,) (B,) (C,) (D,) on the accompanying diagram of two of these; (A) (B) are east of the railroad bridge, and (C) and (D) are west of it; the first of these, (A,) existed before the survey of Lieutenant Berrien, and, as it was adjoining high bluffs, must have been the outlet for some length of time, and this opinion is sanctioned by the fact that a channel now exists directly in connexion, and in the direction of this outlet, containing deeper water than is in the present mouth. The second outlet at (B) was opened, and the mouth of the river at the time of Lieutenant Berrien's survey in 1835; the third (C) existed at the time of Mr. Gamble's survey in 1845; and the fourth (D) is the present outlet. In selecting a location for the piers no difficulty exists at either (A) or (B,) and are the best points east of the bridge. They present nearly equal advantages; the point (A) has connected with it a good interior channel; it would require less dredging than at (B.) At either point a good outlet can easily be made, and after being once opened and protected by piers would be permanent. New Buffalo has all the elements for making a good interior harbor, and as soon as an outlet is made and permanently established by piers, admitting the water of Lake Michigan to flow in it, will, without doubt, increase the depth of water and widen the present channel, which is now only limited by light alluvial deposits, which may be carried out by the reflux of the lake and current of the river. The plan of the river, without doubt, is to protect the outlet with parallel piers, and I would suggest that the distance between the piers be at least three hundred feet; experience has shown the necessity of giving a wide entrance. At the early day of harbor improvements the entrance was made narrow, and in proportion to the size of steamboats and vessels then navigating the lakes; since which they have been greatly increased in length and beam, consequently require more room for a safe and convenient entrance.

All of which is most respectfully submitted by your obedient servant,
 JOHN R. BOWES,
U. S. Agent.

Lieut. Col. JAMES KEARNEY,
President of Board of Engineers for W. R. and Harbors.

OFFICE OF BOARD OF ENGINEERS
 LAKE HARBORS AND WESTERN RIVERS,
Washington, September 27, 1854.

SIR: I am authorized by the Board to make the following report, in conformity with the instructions of the Hon. Secretary of War, of the 18th instant, respecting the harbor of New Buffalo, Michigan. These instructions, endorsed upon the letter of the bureau of the 2d instant, transmitting the report of the Board upon this subject, are as follows, viz:

"Returned with instructions to devise a plan for the expenditure of the appropriation, in the manner most conducive to the end for which it was appropriated. Any material on hand which cannot be used in such plan will be sold, and the proceeds applied to the work."

The state of the appropriation in question is as follows:

August, 1852, amount appropriated for New Buffalo.....	\$8,000 00
September 19, 1853, expended chiefly for materials obtained on contract and now supposed to be on hand.....	5,186 83
September 19, 1853, balance in the treasury.....	<u>2,813 17</u>

The materials on hand at the close of the fourth quarter of 1853, according to the returns of the agent, were as follows:

Timber, white oak, square, 14 by 14 ft. by 30 ft. 100 pieces	\$345 00
Do. 14 by 14 ft. by 45 ft. 100 do.	674 00
Do. 14 by 14 ft. by 50 ft. 66 do.	1,108 80
Do. 16 by 16 ft. by 60 ft. 7 do.	168 00
White oak piles, 67.....	180 90
1½-inch bolt iron, 6,087 pounds.....	289 13½
Stone, 200 cords.....	2,000 00
Total material on hand	<u>4,766 83½</u>

According to contract prices—

Hence we have for the available means, at the disposal of the department, materials which cost, as per contract..	4,766 83½
Cash balance in the treasury.....	2,813 17
Amount	<u>7,580 00½</u>

Out of the balance in the treasury it will probably be necessary to expend for boats, scows, machinery, &c., for the purpose of carrying on the work, the sum of \$2,650, thus:

For two scows.....	\$600 00
For two scows with cranes.....	800 00
For two boats	300 00
For one moveable platform pile driver.....	250 00
For tools and implements	100 00
For superintendence and contingencies.....	600 00
Total	<u>2,650 00</u>

Presuming that the first object of the department should be the providing of these necessary means of carrying on the improvements in question, and that the sum of \$2,650 should be reserved for that purpose out of the balance now in the treasury, the means actually available for materials and construction will be reduced as follows, viz:

Balance in the treasury, as above.....	\$2,813 17
Deducting from which the sum reserved for the construction of machinery, boats, &c., as per estimate.....	2,650 00
The cash balance on hand will be	163 17
And the value of materials on hand at contract prices....	4,766 83
Showing a total means of.....	<u>4,930 00</u>

The Board, in its report of the 19th ultimo, proposed a plan for the improvement of the harbor of New Buffalo, to cost \$46,805 25, and it stated that "no part of the same can be *completed* with the means at the disposal of the department so as to render it effective." It is clear, however, that whatever the plan of improvement may be, the machinery, boats, scows, and other mechanical means of executing the work must be provided in advance. These would cost about \$2,650, as shown in the preceding part of this report. They would be necessary and conducive to the end for which the existing appropriation was made; they would be complete and effective, also, and within the means of the department, and the Board sees no more useful way of applying so much of the balance now in the treasury to the work.

The materials on hand are such as are suitable for crib work. They are useful, and, in fact, indispensably necessary, to the construction of the piers which constitute the sides of the entrance to our artificial harbors on the lakes, and which form part of the plan recommended by the Board in its report of August 19, but they cannot now be worked up, because the several articles are not in due proportion to each other with respect to quantities, some of them being much in excess, while in respect to others there is a total deficiency. For example, there is nearly stone enough for three cribs of thirty feet length each, enough bolt iron for seven such cribs, while there are no tie pieces. In fact, with the stock on hand we could not frame and put in place one thirty-foot crib; and, moreover, there are no plank piles for the sides of excavated channels. Undoubtedly it was the intention of the department to supply these deficiencies, and to correct in due season, and during the progress of the work, these disproportions, which are, it is presumed, mainly attributable to the failure of contractors to fulfil engagements at the commencement of a new work.

But with such a limited and unsorted stock of materials, the Board cannot devise a plan to which these materials alone could be applied in a manner conducive to the end for which the appropriation was made, and there are but two remedies which, in the absence of further appropriations, suggest themselves, viz: to supply the actual deficiency of means, if that can be done, by the sale of articles which may be found to be in excess of their proper proportion, and especially the perishable articles. Or, if on trial this scheme be found ineffectual to any useful end, that the whole of them be sold, or that they be placed, under the usual guards and conditions, at the disposal of responsible parties who will engage to carry on the work with the aid of means furnished from their own resources.

I have the honor to be, sir, very respectfully, your obedient servant,

JAMES KEARNEY,

Lieut. Col. Top. Eng., President Board.

Colonel J. J. ABERT,

Bureau Topographical Engineers.

BUREAU OF TOPOGRAPHICAL ENGINEERS,
Washington, September 14, 1854.

SIR: Application was made some time since by the Illinois Railroad Company to open a passage through the United States pier, between the basin of the company and the river.

In order to obtain the most desirable information on the subject, the matter was referred for report to Brevet Lieutenant Colonel Graham, and his report, when received, was referred to the Board of Engineers on Lake Harbors and Western Rivers. Both reports are now submitted to the decision and direction of the Hon. Secretary of War.

Brevet Lieutenant Colonel Graham, in his report, also indicates an excavation line for the city, under the law of July 1, 1852. Upon this line the Board of Engineers also reports. The Board "fully approves of the views of Colonel Graham respecting these subjects," and "recommend them to be carried into effect."

The law of July 1, 1852, gives authority to the city to excavate, "according to the plan set forth in said memorial," but the law also empowers the Secretary of War "to cause the limits above designated to be marked out."

As the line of excavation marked out by Brevet Lieutenant Colonel Graham does not coincide with the plan (of the city) as set forth in said memorial, upon which the law of July 1, 1852, was predicated it appears to me as essential to the question that the city of Chicago should, by some formal act, accept or acquiesce in the line of excavation as recommended by Brevet Lieutenant Colonel Graham and by the Board.

In conformity with this explanation, it is respectfully recommended that the opening into the basin, as recommended by Brevet Lieutenant Colonel Graham, in locality, in restrictions, and in mode of operation, be approved. Also that the line of excavation be approved, if said line should also be approved, accepted, and acquiesced in by the city of Chicago.

Respectfully, sir, your obedient servant,

J. J. ABERT,
Colonel Corps Top. Eng.

HON. JEFFERSON DAVIS,
Secretary of War.

The application for permission to make an opening in the south pier is approved with the limitations and reservations recommended by Lieutenant Colonel Graham.

JEFFERSON DAVIS,
Secretary of War.

WAR DEPARTMENT, *September 25, 1854.*

OFFICE BOARD OF ENGINEERS

LAKE HARBORS AND WESTERN RIVERS,

Washington, September 13, 1854.

SIR: I am instructed by the Board to make the following report upon the letter of Brevet Lieutenant Colonel J. D. Graham of the 4th instant:

Colonel Graham's letter treats—

1st. Of the question of an opening in the south government pier at Chicago, in order to admit the passage of vessels between the river and the Illinois Central Railroad Company's basin at that place; and

2d. Respecting the improvement of the navigation by the corporate authorities of the city of Chicago, under the act of Congress of July 21, 1852.

The Board fully approves the views, recommendations, and suggestions of Colonel Graham respecting these subjects, and would very respectfully recommend them to be carried into effect.

Very respectfully, I have the honor to be, sir, your obedient servant,
JAMES KEARNEY,

Lieut. Col. Top. Eng., Pres't of Board.

Col. J. J. ABERT,

Bureau of Topographical Engineers.

Col. Graham's letter of the 4th inst., and his map G, No. 4, are herewith returned.

J. K.

BUREAU OF TOPOGRAPHICAL ENGINEERS,

Washington, September 30, 1854.

SIR: I have the honor to submit the final views of the Board of Engineers in reference to the St. Clair flats. From their views it appears that to make a channel three hundred feet wide (exclusive of cost of dredge boat) will require (A) \$27,252; and that to make a channel six hundred feet wide (exclusive of cost of dredge boat) will require (B) \$59,563.

In these estimates the Board excludes the plan of protecting either or both sides of the artificial channel way by crib work and sheet-piling. It would be a fortunate event if some structure of this kind were not required. In my opinion it is essential, and will be required; and to avoid the evil of removing it in order to enlarge the channel at a future day, the work should, in the first instance, be applied only to one, the permanently fixed side. This consideration would probably add to the estimate for the three hundred feet channel about \$5,000, enlarging that estimate (A) to about \$32,000. It is also probable, in my opinion, that this protecting work will be required before the dredging be commenced.

Respectfully, sir, your obedient servant,

J. J. ABERT,

Colonel Corps Top. Eng.

Hon. JEFFERSON DAVIS,

Secretary of War.

The recommendation of the Board for the improvement of the middle channel of the South Pass by dredging, so as to give a channel three hundred feet wide at bottom and twelve feet deep, the sides having an equal slope to those of the natural channel, is approved as the plan to be first executed, when the necessary means shall be provided.

JEFFERSON DAVIS,

Secretary of War.

WAR DEPARTMENT, *October 4, 1854.*

OFFICE BOARD OF ENGINEERS

LAKE HARBORS AND WESTERN RIVERS,

Washington, September 25, 1854.

SIR: In relation to the question of improving St. Clair flats, Michigan, a subject recently referred to the Board for consideration and a final report, I am instructed to make the following statement, viz:

St. Clair river, at its outlet in St. Clair lake, forms a very extensive delta, occupying an area roughly estimated at 70 or 80 square miles. Within this area the river breaks into numerous branches, and enters the lake very much reduced below its original velocity. Owing probably to this diminution of velocity extensive shoals are found in front of the delta, and in these shoals there are channels more or less useful for navigation, but obstructed by bars. The channel presumed to be most convenient for navigation is the south channel or pass, and its subordinate channels named on the charts.

The western channel, the middle channel, and the eastern channel of the South Pass.

One of the questions in the present investigation is, which of these channels should be selected for improvement?

The Board, while engaged upon the estimates for lake harbors for the fiscal year ending June 30, 1855, had before it an item for the improvement of the navigation of Lake St. Clair. It had before it also the report, plans, and estimates of Captain Canfield, late of the corps of Topographical Engineers, and, for the reasons "adduced by Captain Canfield, it was of opinion that the middle channel (of the South Pass) should be adopted for improvement; and, moreover, that the lesser width (300 feet) recommended by him be first opened, and hereafter, should the operation prove successful, and the wants of trade call for a greater width, that it then be increased to at least six hundred feet."

Captain Canfield was of opinion that sheet-piling should be employed for the protection of the sides of the proposed channel, and the Board in its report admitted this amongst the items which it adopted. He makes, however, the following remarks bearing upon the subject of the composition of the shoals, and the probable permanency of the channels:

"If it is borne in mind that the place is entirely out in the open lake, more than a mile and a half from any thing like shore, the fact will be apparent that there can be scarcely any perceptible current at that

place, not sufficient in any degree to effect the bottom." He says also, "it is found by the survey of last fall that scarcely any change has taken place in the depth and form of the channel within the last ten years when the first survey was made." These observations go to justify the opinion that the sides of an artificial channel would not probably require protection if they were cut to the same slope as that which we already find standing in the natural channel. For these reasons the Board is not prepared to advise the use of sheet-piling, or of any other protection for the sides of the proposed channel in the first instance, more especially if it is to be opened at first upon a width of only 300 feet with the prospect of enlarging it hereafter to a width of 600 feet or more, for it would savor of extravagance to establish lines of piles which must be necessarily removed as a preliminary to such enlargement, and it might be also objected that in a few years the piles would decay to the surface of the water, and, being in the open lake, would in rough weather be dangerous to vessels passing between them in the night. For these reasons the Board repeats the opinion that the plank-piling provided for in the estimate should not be used until experience shall have shown that they are necessary for the defence of the channel.

It should be observed that the lines traced in red upon the chart, indicating the proposed lines of improvement, are intended by the Board to show only the general position and direction of the work. It is desirable that the first excavation should be made upon the lines the most convenient for the ultimate *enlargement* of the channel, which should proceed at the same time from both sides of the original cut, nearly on straight lines, these being the most convenient for vessels proceeding up or down the channel, especially at night. The depth of the channel should be 12 feet.

Should the plank piling be omitted, there will be occasion for a greater number of channel marks than has been provided for in Captain Canfield's estimates. This, however, is presumed to be a subject within the province of the Light-house Board.

The contemplated light-house should occupy the position selected by Captain Canfield, namely, at R. Its distance from the nearest light, at the head of Detroit river, is but about eighteen statute miles. The light, therefore, need not be of a superior order, nor very elevated. A Fresnell illuminating apparatus of the fourth order would be sufficient. It should illuminate the whole of the horizon. The beacon light should be the usual lantern employed by the Light-house Board for wharf lights.

With the preceding modifications, the estimate for a channel three hundred feet wide at bottom and twelve feet deep, with sloped sides of 20 feet 1 inch, would stand as follows, viz :

Dredging	112,455 cubic yards for channel
"	44,982 cubic yards for sides

Total..157,437 cubic yards of dredging,

At twelve and a half cents.....	\$19,680
Mud scows, tools, coal wharf, &c.....	4,000
Contingencies, excluding risk to vessels, &c., by fire or weather, 15 per cent.....	3,552
Total cost of improvement, exclusive of dredger, which has been already provided.....	27,232

Estimated cost of excavating a channel at the same locality, six hundred feet wide at bottom and twelve feet deep, with sloped sides 20 feet 1 inch:

Dredging 112,455 cubic yards of channel	
“ 44,982 cubic yards of sides	
Total.. 157,437 cubic yards excavations, at 12½ cents....	\$19,680
112,455 cubic yards of channel at 25 cents.....	28,114
Mud scows, tools, coal wharf, &c.....	4,000
Contingencies, as per preceding estimate, at 15 per cent....	7,769
Total cost of improvement, exclusive of steam dredger.	59,563

As already noticed, the Board has had before it, during the investigation of this subject, the report of Captain Canfield, contained in the printed copy, third part of the message and documents of the President of the United States at the commencement of the first session of the thirty-third Congress, page 145, together with a manuscript copy of Captain Canfield's plans. Also, opinions reported by this Board upon the same subject, and contained in the document already referred to, page 208. It had, also, the map of survey of the St. Clair flats, executed by Lieutenant Macomb, in 1842, under the direction of Captain Williams, late of the corps of Topographical Engineers, together with Captain Williams's report upon the proposed improvement; and, finally, it had the surveys executed in 1852 by Captain Macomb, of the corps of Topographical Engineers, and the views of the bureau, set forth in its report of May 28, 1852, printed in Ex. Doc. No. 76, thirty-second Congress, first session, Senate.

A copy of the chart and plans accompanying Captain Canfield's report is transmitted herewith, and the other manuscript matter is returned to the bureau.

Very respectfully, I have the honor to be, sir, your obedient servant,

JAMES KEARNEY,

Lieut. Col. Top. Eng., President Board.

Col. J. J. ABERT,
Bureau Top. Eng.

APPENDIX G.

WASHINGTON, *June 1, 1854.*

COLONEL: I have the honor herewith to submit the original note books of comparisons and measurements made in September and October, 1852, on the base line at Mackinac point, Michigan, for the survey of that portion of the northern lakes lying in and near the straits of Mackinac; and also the original record of all the reductions.

These reductions were also revised under the orders of Captain J. N. Macomb, corps of Topographical Engineers, in charge of the survey of the lakes, and the revisions retained as duplicates in office of the survey at Detroit.

And agreeably to your orders, I now submit such a description of the apparatus and summary of the final results as, I trust, will be sufficient to explain the mode of measurement.

The base is upon the southern shore of the straits of Mackinac, far enough in rear of the site of the old Fort Michilimackinac, of which some traces still remain, to clear the bend in the shore to the SE. of the old fort. Its western terminus is on McGulpin's point.

This line was selected by Captain Williams, corps of Topographical Engineers, in 1842, when the project of the survey of these straits was first suggested, and an approximate measurement made by Lieutenant Gunnison, corps of topographical engineers, in 1844, fixed the length of the base at 6.08 miles. The SE. portion of this, however, is very unfavorable, lying principally through swamp.

Upon a re-examination of the ground, and a revision of the triangulation, it was determined, with the concurrence of Captain Macomb, to shorten the base, which a new scheme of triangles rendered perfectly admissible.

When the triangulation of this region is extended westward through the Beaver islands, Fox islands, &c., to the NW. shore of Lake Michigan, a more suitable base will be found upon the shores of Green bay. This one is intended to serve the present purpose of rendering the surveys in this vicinity immediately available for publication, and may be used eventually as a base of verification.

The difficulties in carrying on a very extended scheme of triangulation along the N. and NW. lakes, from their width, the flatness of their shores, and the great extent of the wooded region bordering upon them, will make the frequent measurement of bases unavoidable. For that reason, it was essential to obtain such an apparatus as would insure, in addition to accuracy, great facility of transportation and manipulation.

The astonishing results obtained upon the survey of the coast with the compensating apparatus made under the direction of Professor Bache, the superintendent, (the general plan having being devised by him, and the details by Mr. Wurdemann, mechanic, now established in Washington as a mathematical and astronomical instrument maker,) left no doubt as to the proper kind of apparatus to be procured, and Mr. Wurdemann was requested to turn his attention to such modifications to the one he had already made as would render it more suited

to our wants, especially that it should be lighter, smaller, and of course cheaper.

This plan and estimate were approved by the department, and I have every reason to be satisfied with the results of his industry and ingenuity.

The general features of the apparatus, of which I propose a description, is—

1. That all its parts are of metal.
2. That it is compensating for changes of temperature.
3. The mode of measurement is by simple contact of one end of one system of bars, called tubes, with the end of another.
4. The length of each tube is five yards or fifteen feet.

And the whole consists of the following parts, viz:

- a. Two sets of compensating bars, each fifteen feet long;
- b. Four trestles or stands, two to each tube;
- c. Eight cast iron foot plates, with levelling screws;
- d. One transit telescope and stand, for alignment;
- e. One brass standard bar cut to the length of five yards, and previously compared with standard United States yards, in a box on rollers for comparing length of tubes.
- f. One contact level apparatus for making comparisons of tubes with standard.

Description of the tubes.—Two bars set edgewise one above the other, the lower one of brass, the other of wrought iron, are firmly fixed together at one end by means of a stout cross piece of iron, and far enough apart to allow the insertion between of a number of small rollers upon which the iron bar rests along its whole extent from the connecting piece; the cross, or lower bar, resting on a larger set of rollers that have their pivots in iron uprights which are fixed to an iron tube supporting the whole of the interior parts.

This tube is $7\frac{3}{4}$ inches in diameter, of sheet iron, about one-twelfth of an inch thick, perforated through its whole length and circumference, for the sake of lightness, with four inch circular holes arranged at equal distances and diagonally with respect to the axis of the tube.

To protect the bars from local and sudden changes of temperature, as well as to render all changes of temperature as uniform and gradual as possible, the whole is cased in a double tin tube with a space between of about $1\frac{1}{2}$ inches; the two cases being connected at frequent intervals with rings (of tin) soldered to each.

On the end of the iron bar, near the connecting piece, is screwed a piece of iron to which is attached a sector bearing a level seven inches in length, moved by means of a tangent screw whose head projects through the top of the tin case. The scale of the sector, and the scale of its attached level serve, together, to indicate the inclination of the bars.

The sector bears on its upper part a contact level hanging in steel pivots, and having below a small projecting arm of steel for contact.

To the lower part of the sector is attached a piece in the shape of a V, bearing a lever with its pivot at the apex of the V; this lever has at its upper end a hardened steel screw passing through it and abutting against the small projecting arm of the contact level. Just below this

screw, and on a line horizontal with the axis of the sector, there is also affixed to the lever a piece of hardened steel, the face of which is an arc of a circle having its centre in the axis of the sector. So that, at all inclinations, the horizontal distance between the face of this piece and the axis of the sector will be the same.

A steel rod plays against this steel curve. This rod is supported by two uprights moving upon a piece attached to the brass bar, and forming with it a jointed parallelogram. It projects about four inches beyond the end plate of the tube, terminating in an obtuse knife-edged agate set in a piece of brass. A cap is screwed over this when the apparatus is not in use.

The iron tube containing the bars is attached to trestles, of which a description will be given further on. The point of support is about $3\frac{3}{4}$ feet from the end. Now if the end piece, to which one end of the bars is firmly fixed, were attached to the iron tube, the changes of temperature would constantly shift this end point backwards and forwards as much as the tube expands and contracts.

To obviate this it becomes necessary to attach the end to a compensating rod which is fastened to the iron tube at a point perpendicularly above the trestle. This rod consists of three tubes, two of iron and one of zinc, fastened inside of each other according to the well-known manner of making compensating pendulum rods.

The compensating, or outer end of this, bears a screw nut in which turns a screw that has a shoulder against the connecting piece of the two bars. This screw has a head projecting beyond the tube, and enables the operator to move the bars for the ultimate contact. A strong spiral spring gives it an opposing motion.

The compensating contrivance is at the other end of the bars. It consists in a simple lever having its axis at the lower end, which is attached to the end of the brass bar and two knife-edged abutting pieces—one nearly in the middle of the lever and acting against a steel plate fixed to the end of the iron bar; the other on the upper end giving the compensating motion to a steel rod by pressing against a steel plate attached to the rod; a spiral spring keeping this last in constant contact.

The distances between these three points are determined from the relative expansions of iron and brass bars. They are first ascertained from theory, and ultimately corrected to correspond to the actual expansion of the bars themselves.

This steel rod projects through the end of the tube as at the other end, terminates with an agate ground to a plane and set in a piece of brass, and is also protected by a cap when not in use.

Opposite to the sector a plate glass window is set in the casing to allow a view of the sector and levels. There is a similar window at the compensating end, and one near the middle of the tube.

Of the trestles.—Two stout iron rings are soldered on the tubes at a distance from the ends of one-fourth the length of the apparatus. To these are fixed the supporting parts to connect them with the trestles, which are, on the sector end, a horizontal axis with trunnions and stays, and on the compensating end, a ball resting in a socket, by which it accommodates itself to the position of the tube on the other trestle.

The sector end trestle, (or rear trestle,) has three iron legs, made of

gas tubing, with cast iron connecting pieces above and below. In the centre of these is fixed a $2\frac{1}{4}$ -inch iron tube nearly two feet long, with a two-inch sliding tube within it, moved by a rack and pinion, having an outside crank and a catch to stop it at any desired height. Within this is an iron barrel turning on a steel axis, and on the upper part of the barrel is a broad flange with a level cog wheel, to which a rotary motion can be given by means of a smaller cog wheel put within reach of the operator by a long handle reaching beyond the rear end of the tube. This allows a perpendicular motion of about two inches, and is intended for final adjustment of the tube in altitude; the large motion being given by the rack and pinions.

Two sliding plates of nine inches in length, with a top plate of six inches, with their screw arrangements, give the necessary lateral and longitudinal motion; also, by means of long handles projecting beyond the rear end of the tube.

All the longitudinal steadiness of the apparatus being entirely dependant upon this rear trestle, the other trestle or stand is set upon two legs only. Its inclination being limited to the $1\frac{1}{2}$ -inch sliding motion of the rear trestle, the tendency to press in either direction by this slight deviation from the perpendicular is very small.

This trestle, therefore, is provided with the lateral slides only, moved by a crank. It has, also, the fine and large motions in altitude as in the rear trestle.

The foot plates.—To prevent the legs of the trestles from sinking in the ground, and to give them steadiness, they are made to rest upon cast iron foot plates. These are provided with stout capstan head leveling screws at the points where the feet of the trestles rest; the head of the screw being hollowed out to receive the foot of the trestle. There are eight of these plates in order that they may be put into position in advance as the measurement progresses. Their position in alignment and level is established by a guage.

The transit.—The alignment is maintained along the base by the aid of a transit instrument of eighteen inches focal length, set up in advance of the measurement. The head of the stand upon which the instrument rests is furnished with a small lateral motion, by antagonistic screws, to facilitate the placing of the optical axis of the telescope in line.

The standard bar.—The means of testing in the field the compensation and absolute length of the apparatus, consists in a standard brass bar of five yards in length, and a contact level apparatus for comparing the tubes with this standard.

The contact level.—On a brass bed plate about 6 by 4 inches, and half an inch thick, a slide three inches long is made to move horizontally by means of a micrometer screw. This screw has exactly fifty turns to the inch, with a drum head projecting beyond the plate on the right hand side, divided to two hundred parts, and a spiral counter spring to insure its position on the plate.

The slide, with a simple index line, moves along a scale of $\frac{1}{30}$ inch, (set upon the edge of the bed plate,) for reading the whole turns of the screw. On the inside of the drum head there is another index to mark those divisions. On the inner end of the slide, about the middle

of the bed plate, there is a forked upright, between which is poised a level on steel pivots, having a graduated scale of ten divisions to one on the drum head. A preponderance to the right hand or screw side is given to the level by a small weight.

Below the centre of motion of the level there projects a hardened steel plate, against which a short, round bar, with rounded steel ends, abuts from the left. This bar projects about a half an inch beyond the bed plate, and lies upon two rollers let into the bed plate, to make the movement of the bar as easy as possible. The bed plate, with its arrangements, is firmly fixed on the top of a wooden or stone post by means of screws or of plaster of Paris.

At a distance a little greater than the length of the standard bar another post is set in the ground, the fixtures upon which consist simply in a strong bracket with a steel screw through the upper portion, presenting at the end a hard and polished surface, slightly rounded. This must be fixed on the post opposite, and at the same height as the short abutting bar of the contact level, and at nearly the length of the standard or tube to be compared; the abutting pieces being both made to project beyond the inner faces of the posts.

The standard is laid, in a box and on rollers, between these abutting pieces and the bracket screw is turned until it touches that end of the bar. They are then kept in contact by attaching a spiral spring from the bracket to a small pin near the end of the bar on its upper side. Then, at the other end, the slide is moved by the drum-head towards the end of the standard bar until the level reads, as near as can be, alike at both ends of its scale. The reading of this, as well as the reading of the drum-head and slide-scale, are recorded, as also the temperature of the bar. The bar is then removed and the length to be compared, the tube inserted between the parts, and the process repeated to obtain the length of this.

It will be seen that a division on the drum-head, being $\frac{1}{200}$ of $\frac{1}{50}$ of an inch, is $\frac{1}{10000}$ of an inch, and, consequently, one division on the level is $\frac{1}{100000}$ of an inch. This can be read off with perfect certainty, and without the aid of a magnifier.

Results of the comparisons.

The apparatus was ready for adjustment about the middle of July, and the final adjustments and comparisons occupied until the middle of August, when it was shipped for its destination, and safely landed on the ground on the 1st of September.

The last comparison in the shop gave the following result:

Difference between standard bar and United States standard yards.

Nos. 40, 41, 42, 43, and 44, at 62° Fahr., = 0.0063 inches.

The readings of the contact level being, bar, 2370; yards, 2307. The yards being short, 0.0041 inches, gives the true length of standard bar, = 15 feet, 0.0022 inches. The rate of expansion being 0.0017 for 1° Fahr., for the whole bar.

There was a difference of +0.0002 inches between the standard and

each of the tubes, making these last each 15 feet 0.0024 inches. The last reading being for bar, 2566; tubes, 2467; temperature, $67^{\circ} .95$.

In order to test these comparisons, a suitable spot was selected close to the base line, over which a temporary shed was built of boards, open to the north, so as to exclude the sun's rays, and two wooden posts planted firmly in the ground to receive the contact level and abutting piece. These posts were about 15 feet 2 inches apart, with their tops sawed to the same height, determined by a theodolite.

The standard bar, resting edgewise upon the rollers in its box, was set up between these posts upon two wooden trestles, both ends of the bar projecting equally beyond the ends of the box. The box, instead of resting directly upon the trestles, was made to rest upon pieces of plank set lengthwise upon the trestle, with a roller between each trestle and the board, and two rollers between each board and the bottom of the box, thus spreading the supports, and preventing any spring or warp, and besides giving the box, as well as the bar, as much freedom of motion as possible.

For the purpose of keeping the bar in the middle of the box and on the rollers, soft cotton was interposed between the bar and the sides of the box, and at such distances as to serve at the same time as supports to six thermometers laid along each side of the bar, at regular distances apart.

The bar was kept in contact with the abutting piece at one end by hooking on the spiral spring, as before described, and the comparison made by turning the micrometer screw-head until the abutting bar of the contact level was made (by pressing against the projecting steel pivot of the level) to poise the level as nearly horizontal as possible.

These comparisons and readings were made every half hour during the day, (September 3,) and the temperatures carefully noted. It being found, however, that the abutting piece had been set rather too close to admit of the free admission of the tubes between the posts, the position of this had to be changed, and, when reset, the comparisons were again repeated on the 7th and 8th September. The same comparisons of the standard bar were also made on the 30th September, and on the 1st, 2d, and 4th October.

The general results of all these for the linear expansions of the bar are as follows:

Series.	Expansions for 1° Fahr.	No. of comparisons.
First.....	0.00142	48
Second.....	0.00163	51
Third.....	0.00146	34

Mean..... 0.00150 inches for whole bar for 1° Fahr.

Length of the bar = 180.0022 inches; and $\frac{180.0022}{0.0015} = 0.000012002$ for the lineal expansion for 1° Fahr.

The expansion determined by Mr. Wurdemann, as before stated, was 0.0017 inches for 1° for the whole bar, giving for the lineal expansion for 1° Fahr. = 0.000010586.

The next step was to ascertain, by actual comparison, the absolute length of each tube, and if their compensation had been deranged by the journey.

Two foot-plates were set in position between the posts and the tubes, successively and alternately with the bar, placed upon them the sector end of the tube next to the abutting screw.

By means of the handles and screw-head at the end of the tube, whenever a comparison was required, the agate knife-edge was made to bear against the polished end of the abutting screw until the contact level of the tube was brought to a level, and at the same time (one person being stationed at each end) the reading of the level of contact of the comparator was obtained as before described.

The results of the several sets of comparisons, both before and after the measurement of the base, are as follows :

TUBE No. 1.

	Expansion for 1° Fahr. for the whole length.	No. of comparisons.
September 6 =	- 0.00023 inches.....	5
September 7 =	+ 0.00022 do	8
October 4 =	+ 0.00004 do	10

TUBE No. 2.

September 6 =	+ 0.00034 inches.....	8
October 4 =	+ 0.00033 do	10

From which it would appear fair to assume that no material change had taken place in tube No. 1, but that tube No. 2 required a correction for temperature.

Before making the comparisons, and also after the measurement of the base, the sectors of the tubes were adjusted by means of a theodolite set up about 100 feet distant from the tube, and at right angles to the middle of it, thus: After levelling the theodolite carefully the horizontal wire of the telescope was brought to bisect the agate at one end of the tube, the telescope then directed to the agate at the other end, and the two brought into the same level by means of the trestle movement. After which the sector reading was brought to zero, and the long level adjusted to it.

After the measurement, the adjustment of the sectors of both tubes were found to have been slightly changed. This will account for the correction which will be found in the detailed record of the reductions, and teaches the necessity, in future measurements, of examining this adjustment more frequently.

Assuming the expansion of the standard bar to be 0.0015 inches for 1° Fahr. for the whole bar, the final results of the comparisons for the absolute length of the tubes are as follows:

Length of tube No. 1, from comparisons before measurement of base.....	179.99815 inches.
No. 1 do. after do	179.99954 do.
Mean length of tube No. 1.—	179.99884 inches—4.99996 yards. Logarithm = 0.6989672
Length of tube No. 2, from comparisons before measurement of base.....	179.99986 inches.
No. 2 do after do	180.00217 do.
Mean length of tube No. 2.—	180.00101 inches—5.00003 yards. Logarithm = 0.6989726.

Measurement of the Base.—The most convenient point for landing the apparatus is near the middle of the original line, and as after having

determined to shorten the base, as before mentioned, the southeast termination towards station B became indeterminate; it was decided to commence the measurement near the middle, to measure in the direction of station B as far as the ground would admit, and to return to the point of beginning and measure in the other direction towards McGalpin's Point, (station A.)

The ground had been previously cleared for a width of some twenty feet, and a party of some six men was kept in advance of the measurement to cut off for a width of four feet in the centre all the sod, roots, &c., from the surface, cutting down as far as the firm soil wherever it was practicable, and also levelling the space to be occupied by the foot-plates.

By the transit instrument stakes were placed at proper intervals in the line between the triangulation stations A and B, already standing at the extreme ends of the original base. Upon these stakes the transit was subsequently set to keep up the alignment of the tubes.

The measurement was begun by setting up tube No. 2 in line by means of the transit standing upon the first stake established in advance of the point of beginning. The tube being moved by the tangent motion of the trestles until the + pairs of the transit were made to bisect the lights fixed upon the upper edge of the tube at each end. The first tube once placed, the subsequent alignments were made by simply bisecting the forward agate of each tube in succession.

Just under the forward end of this first tube a marble block 8 or 10 inches thick, with a smoothly-dressed upper surface of 14 inches square, was firmly bedded in the ground, upon which, determined by the transit, a fine line was traced with the point of a penknife in the direction of the base, and with the help of a theodolite set up nearly at right angles to the base a second line was traced, representing the intersection on the stone of the vertical plane passing through the extremity of the front agate.

The intersection of these two lines marked the point of beginning upon the ground.

The stone having been carefully secured and protected, was left standing to take up the point in the subsequent measurement in the contrary direction, towards A.

The same means were used to mark the termination of each day's work, although the stone was not in every instance left standing after the point had been taken up.

In transferring the point from the ground to the tube, the theodolite + hairs are made to bisect the mark on the stone, the telescope raised to the height of the tube, and the apparatus moved by means of the tangent motion of the trestles until the agate is brought into the proper direction of the + hairs.

This first tube having been put in position upon its foot plates, and the remaining three sets of foot plates also set in line by the transit and foot plate guage, tube No. 1 was lifted into its place in advance, aligned by means of the transit, levelled and set to its proper inclination, and the contact made by the proper end screw, the manner of proceeding being in each case as follows:

Four men are required to lift the tube, one at each handspike. The

principal is stationed at the rear end of the tube, an assistant at the forward trestle. Another assistant is at the transit in advance.

Two men manage the guage for setting the foot plates. Two men carry the foot plates from the rear to the front. The assistant at the forward end of the tube superintends the foot plate men.

A party of six men, in charge of an assistant, is in advance, preparing the ground to receive the foot plates.

At the word, ready, raise, the tube is lifted and moved forward, passing to the right of the tube left standing, and set upon its foot plates already prepared to receive it. Two of the handspike men take hold of the elevating crank handles of the trestles, one at each. The other two go after the foot plates left in rear, and bring them to the front. The principal sets the sector to its proper inclination, and gives the word raise or lower in rear or in front, as required, until the tube is brought to nearly its proper height and inclination. The word is then given—align—to the assistant at the transit, who, by signs, directs the motion to be given to the tube, which movements are made by the principal at the rear end by means of the long handles projecting from the end of the tube, and at the forward trestle by the assistant.

The bars are thus brought into their proper place in inclination and direction, the rear agate of the forward tube within a fraction of an inch of the forward agate of the rear tube, when, by means of the milled-head screw projecting from the rear end, the whole arrangement of bars within the tube is moved back and brought into contact with and pushed against the forward agate of the rear tube until the level of contact arrangement designates zero; then the bars are in position. The reading of the sector is recorded, the thermometers read, and the men take their stations at the rear tube and proceed as before.

No attempt was made to keep up continuous grades along the line. The tubes were kept level as long as possible, then for short distances an elevation of 1° or 2° generally was given to them to obtain another level reach. To facilitate reductions, the same inclinations were repeated as much as possible.

The measurement was continued in this manner towards station B for 391 tubes, when the ground was found too unfavorable to proceed further.

This termination, which in the triangulation is designated as station B', is marked by a line stone post $4\frac{1}{2}$ feet long, sunk so as to bring its upper end two feet below the surface of the ground. This is dressed smooth, and has a silver ten cent piece set in, upon which a fine line marks the termination, fixed by means of the theodolite, as at the point of beginning.

As a further precaution, a granite stone was planted 22 feet 4 inches to the north of the line, the top of which is marked with a +, the centre of this mark is on a line with the mark on the centre stone, and also on a line with a similar mark on another stone set up at about the same distance on the south of the line. But the line passing through these marks is *not* at right angles to the base line.

The tubes were dismounted from the trestles and the whole carried back to the point of beginning, whence the measurement was taken up and continued in the contrary direction. This needs no further descrip-

tion, except in two instances of unfavorable ground, where some preparations had to be made to obtain the requisite steadiness to the tubes.

On a marsh of some 350 feet across, fortunately dry at the time, the whole distance was bridged over by longitudinal sleepers laid continuously three feet apart, with cross ties spiked down at intervals corresponding to the distances of the foot plates from each other, so that each plate rested upon two cross ties. On each side of this boards were laid to walk upon. By being very cautious in handling the apparatus, this ground was crossed over without difficulty. The stability of the tubes on the bridging was tested by a theodolite set up on firm ground some little distance off.

Passing this the ground continued *springy*, and it was found impossible to reach firm soil by clearing for any reasonable distance, without the risk of reaching water. Recourse was had to stout cedar timber frames with a projecting point under each corner; these were driven firmly in the ground. Four of these frames were made and set in succession in advance, upon which the foot plates of each tube were made to rest. These answered a very good purpose, they were easily managed, four men moving them from rear to front, and took but little time to put them in position.

The northwest termination of the base, on McGalpin's point, lying under the signal of station A, is not yet marked, and cannot be until the station is removed. But at the end of the 1419 tube from the station B', 306 feet from station A, a stone post was sunk in the ground, as in the former case, upon the top of which is set a silver five cent piece, upon which two lines are drawn, (not at right angles,) the intersection of which marks the termination of the 1419 tube. The top of this post is about two feet below the surface of the ground.

From this an off-set line was measured of 22 tubes' length, making an angle of 60° with the base line, to serve as a base to connect station A. The termination of this off-set is also marked by the intersection of two lines drawn across a five cent silver piece set in the top of a stone post sunk in the ground, well rammed and secured as before.

The connexion by triangulation has since been carefully made by Captain Macomb.

I have avoided in this general description the details of the reductions, etc., referring to the accompanying papers, and those in the office of the survey at Detroit, for those particulars.

The resulting length of the base from station A to station B', is—

7195.82444 yards; log. 3.8570806;

which reduced to the level of the sea, assuming the altitude to be 216 yards, is—

7195.60197 yards; log. 3.857067012.

The reductions for inclination were made by the formula

$$B-b = \text{correction} = \frac{\sin^2 1''}{2} 0^2 B;$$

from which a table of reductions was made for each tube for each grade.

To test the measurement, the last 100 tubes (1,500 feet) were re-measured, resulting thus: A line was drawn (as before described) across the upper surface of a marble block sunk in the ground at the end of the 1319 tube; on returning to this, after measuring 100 tubes and back, without attempting to keep the same grades, the line marking this last termination was 0.1666 inches beyond the first, i. e., towards station B'; whence

	Yards.
The sums of the reductions for grade, etc., in the first measurement of 100 tubes, was.....	0.0208551
Sums of the same for second measurement.....	0.0260276
Differences in yards.....	0.0051725
Difference in inches.....	0.1862100
Actual distance between the lines on the stone.....	0.1666666
Difference of the two, or difference in the measurement of 1,500 feet.....	0.0195434 of an inch.

As to the time taken in the whole measurement, the greatest distance measured in one day was 1,950 feet, or 130 tubes; and the average day's work of 7 hours, 1,125 feet (75 tubes.)

In this duty I have to acknowledge the assistance of Captain J. A. Macomb, and the late Captain Gunnison, corps of Topographical Engineers, and Mr. John Lambert, and the crew of the steamer Surveyor; as also, occasionally, of Lieutenant Reynolds, corps of Topographical Engineers, and Messrs. J. A. Potter and W. Harding.

Respectfully submitted.

THOMAS J. LEE,
Captain Topographical Engineers.

Colonel J. J. ABERT,
Chief of Corps of Topographical Engineers.

APPENDIX H.

WASHINGTON, D. C., *September 19, 1854.*

SIR: I have the honor to make the following report of operations connected with the Florida canal survey during the past year.

The instructions given by the chief of the corps directed the following examinations to be made preparatory to the final surveys, to wit: an examination of lines connecting the head of navigation of the St. John's with Charlotte harbor, with the Manatee survey, and with the deep water of Tampa bay. Also, an examination of any other lines that a further acquaintance with the country might render necessary.

Under this last discretionary authority, the country from Tampa to the head of the Ocklawaha river, and from the St. John's to the Big Santa Fé pond, was gone over preparatory to further work if deemed sufficiently favorable.

The examination of Charlotte harbor and vicinity determined that that bay presented no advantages over Tampa as a terminus for a canal, but on the contrary was inferior to it; and it was concluded that the instruments alone could decide as to the relative advantages of the remaining routes; hence full surveys were made of all of them, together with that of a line from the mouth of the St. Mary's to the harbor of Cedar Keys.

It is believed that these various surveys have been prosecuted with an energy and success, as regards the amount of work done, that will compare favorably with that exhibited by any other party in the field for the same period of time, (a few days short of four months.) The following is a brief summary of the last winter's work:

The total length of the four lines surveyed was 377 miles; these lines were each cut out, cleared for the level, and measured off into distances of 100 feet, which were marked by stakes having the proper numbers upon them. (When the country was very flat these stakes were placed at intervals of 200 feet.)

The height of the ground at each stake was carefully ascertained by the level, together with that of as many other points as the inequality of the surface rendered necessary, whole recorded, and the off-sets to the right and left of the lines were made as often as from the nature of the country was deemed important. The various lakes met with were sounded, and streams crossed gauged, that could be of use as data in the final report.

The number of miles measured and leveled on the main lines, was.....	377
The number of miles of off-sets measured and leveled, was..	17
The number of points, the heights of which were determined and recorded, was.....	12,948

In addition, the river St. John was sounded from Palatka to Lake Jesup and the Ocklawaha, and examined for a distance of 85 miles up from its mouth.

At present the drawings and reports of the surveys are rapidly being completed, and it is believed will be ready to meet any call that may be made for them by Congress at its coming session.

In concluding this annual report I take occasion to call your attention to a preliminary one, made in July last, in connexion with this same subject. The object of that report was to state the propriety of a further appropriation for continuing the canal survey. Without further examinations in Florida, it is impossible for an engineer to decide whether the best route for a canal has yet been surveyed or not; and the results at present obtained clearly indicate that at least one more line, possibly two, should be run across that peninsula before such a decision is attempted.

This project of a canal, having been taken for the second time by government, it is most proper that it should not be dismissed until all desirable information and data are obtained, thus allowing definite and final conclusions as to its practicability, or otherwise, to be drawn.

In the present stage of the surveys *eight* months' additional labor would enable the engineer to complete all work desirable to be done; and as the field-marks of the surveys already completed are still fresh and easy to be recognized, the work could now be readily taken up and carried on to completion—whereas, if time elapses, (the country being yearly burnt over,) every important mark that has been left may become obliterated and destroyed, requiring much of the instrumental labor to be performed over again.

The particular lines of survey indicated in the report of July were from the bend of the Ocklawaha to the harbor of Chrystal river, and from the head waters of the Ocklawaha to the sources of the Withlacoochie river. This last line is important in connexion with the lines surveyed last winter, and, had the appropriation held out, would have been taken up and completed while the party was then in the field. The country proposed to be run through is almost entirely unknown, and it is believed there are many lakes and other sources of water important in connexion with the summit level of a canal. In addition, I am desirous that the summit pass of the line running from Black creek across the peninsula, as surveyed under the direction of the Board of Internal Improvement, existing in 1826, should be again examined for the purpose of comparison with the lines recently surveyed.

In accordance with the above statements I have the honor to request that a further appropriation for the Florida canal survey be recommended.

The subjoined is an estimate of the amount needed:

Outfit of party.

Four wagons, army pattern, delivered in Florida, at \$180.	\$720 00
Twenty-four mules, at \$140.	3,360 00
Harness for mules, at \$50 per team.....	200 00
Tents, 3 wall and 6 common.....	165 00
Axes, spades, tools, boring-rods, &c.	100 00
	4,545 00

Survey.

The cost of an efficient party in the field, as ascertained from last year's experience, is about \$1,200 per month; to accomplish the work indicated will take eight months, eight months, at \$1,200		\$9,600 00
Transportation of officers per diem, and office expenses..		1,000 00
Total.....		<u>15,145 00</u>

I have the honor to be, sir, very respectfully, your obedient servant,

M. L. SMITH,

Lieutenant Topographical Engineers.

Col. J. J. ABERT,

Col. Corps Top. Engineers, Washington city, D. C.

APPENDIX I.

OFFICE OF GENERAL GOVERNMENT ROADS

TERRITORY MINNESOTA,

St. Paul, September 15, 1854.

SIR: I have the honor to make the following annual report of operations on the general government roads in this Territory. The date of my last report was September 17th, of last year. Since then—

On the Point Douglass and St. Louis river road.—A bridge of three spans, each of twenty-five feet, has been made over Sunrise river; and the contract of John D. Ludden, esq., for the portion between the sixty-eighth and seventy-eighth mile stations, has been reported to me finished. The expenditures on account of this road from the 30th of June last year have been \$16,618 47.

On the Point Douglass and Fort Ripley road.—The bridge across Rum river, represented in my last report as nearly completed, has been finished. This bridge is one of a single span, of one hundred and thirty-seven and a half feet, and is elevated twenty-four feet above the water at its ordinary level. It has been constructed according to the plan of the improved brace bridge of Colonel Long, of the Topographical Engineers, and in the precision of its joints, the complete manner in which its parts have been compacted together, and its unyielding stiffness as a whole, it is all that could be desired. So well was it put together, and so judiciously were the joints arranged, that when the scaffolding was taken away it was found to have settled only half an inch. My assistant in the erection of this bridge was Charles L. Emerson, esq., civil engineer, and the contractor Orrin W. Rice, esq., to both of whom I tender my acknowledgments for the faithful manner in which they have performed their respective duties. The amount expended on account of this road since June 30th had been \$7,315 87.

On the Wabasha and Mendota road.—The contract of F. S. Richards, esq., mentioned in my last report as in process of completion, has been finished. The portion covered by this contract includes the bridge of thirteen spans, each of twenty-five feet, with its embanked approaches, over the slough near Wabasha; a small bridge over Smith creek, with its approaches; the grading of the adjoining hills; and the construction of the portion of the road alongside of the bluff of the Mississippi river just above Reed's Landing, and the continuation of it on through the ravine back of Racot's to the table land above. These several portions of work, especially the first and the last mentioned, were very heavy in their character, and required an outlay of money greatly disproportionate to what will be required on the road generally. There yet, however, remains a couple of formidable pieces—the causeway over Hay Creek marsh and the bridge over Canon river and bottom, the latter of necessity nearly half a mile long—which will also cause a disproportionate outlay. The amount expended on account of this road since June 30th has been \$5,980 40.

Having now given a statement of the operations during the past year, I proceed to lay before you a detailed statement of all the work which has been done on all the roads under my charge since the date of the first appropriation for them by Congress, July 18, 1850, and I forward herewith a map, the better to illustrate the report:

Road from Point Douglass to the mouth of the St. Louis river of Lake Superior in Wisconsin.—This road has been surveyed and staked out from Point Douglass to the falls of the St. Louis river, the most northern terminus, according to the acts of July 18, 1850, and January 7, 1853; and has been constructed from mile station 21 to mile station 78, a distance of fifty-seven miles; three-fourths of the distance being through dense heavy woods, and a considerable portion of it involving some deep and difficult cutting and the construction of a large number of culverts and bridges, two of the latter, that over Deep ravine, near Stillwater, and that over Sunrise river, being of a considerable character. I have stated that the road has been surveyed and staked out from Point Douglass to the *falls* of the St. Louis river, the northern terminus, according to the acts of July, 1850, and January, 1853. But a more recent act—that of July last—provides that so much of any former act as requires the road to terminate at the *falls* or rapids of the St. Louis river be repealed, and makes the *mouth* of the St. Louis river, in Wisconsin, the terminus. This being the case, the survey and location of the road will have to be extended from the *falls* of the St. Louis river, or from some *point north of the already constructed portion of the road*—that is, from some point north of mile station 78—to the *mouth* of that river, in one of the modes suggested by my letter of the 17th August, as the department may direct. Besides this survey and location, which it is proposed to have done under the recent appropriation of \$20,000, it is also proposed, agreeably to the sanction of the department, to make this appropriation go as far as possible towards opening the road through to Lake Superior, and making it passable. In order to this, the road will be simply cut through, and, if necessary, grubbed to a width, say eighteen feet, just sufficient to enable teams to pass;

the bridges, culverts, and causeways be made well where required; and, after getting through in this way, it is proposed to go over the road again, widen, grub, and otherwise perfect it, as the means appropriated by Congress will allow.

Road from Point Douglass to Fort Ripley.—This road has been surveyed and staked out its entire length; the portions which have been constructed are as follows: The portion between stake 21, just beyond Rice creek and mile station 21, a distance of nearly five miles, inclusive of a bridge of two spans, each 25 feet over Coon creek, with its embanked approaches; a bridge of a single span of $137\frac{1}{2}$ feet over Rum river, with its embanked approaches; a bridge of five spans each of 25 feet over Elk river, with the necessary embankment; the portion between mile station 65 and mile station 82, a distance of 17 miles; a bridge of three spans each of 25 feet over Rock creek, with its embanked approaches, the portion between mile station 101 and mile station 105, a distance of four miles; and the portion between mile station 113 and mile station 115, a distance of two miles. The portion, proposals for which have been advertised under the recent appropriation of \$10,000, are the portion extending from Dayton's bluff, below St. Paul, to the town, over a difficult marsh, subject to be overflowed by the back water of the Mississippi, and the portion extending from St. Paul to St. Anthony, a distance of seven and a quarter miles*—both of them heavy works. The balance which may remain of the appropriation will be applied to such other portions of the roads as may most require it.

The road from mouth of Swan river to the Winnebago agency, at Long Prairie.—This road has been surveyed and staked out throughout its whole extent. The portions constructed are, commencing at its western terminus or the agency, as follows: A bridge of 20 feet span and a causeway across Turtle creek and marsh, the portion between miles stations 3d and 7th, a distance of four miles; a bridge of 30 feet span over Bear Head creek, with its embanked approaches; a bridge of 25 feet span over Swan creek, with the necessary embankments; two bridges, each of four spans of 25 feet, over Swan river, with the embanked approaches; and the portion between the 25th mile station and the Mississippi river, a distance of nearly three miles. The recent appropriation of \$5,000 it is proposed to apply next spring, as the former ones have been, to the portions of the road where it will be most required.

Road from Wabasha to Mendota.—This road was surveyed and staked out in the fall and winter of 1851, but the work proving abortive on account of the time in which it was done, I was necessitated in the summer of 1853 to have it surveyed and staked out again. The portions completed are the bridge of thirteen spans, each of 25 feet, and causeway over the slough at Wabasha, a small bridge over Smith's creek, with its approaches, the grading of the adjoining hills. The construction of the portion of the road extending from Reed's landing

* This last portion has to-day, September 19th, been under contract.

along the side of the bluff of the Mississippi, and through the ravine back of Raucot's to the table land above, and the construction of the portion of road extending from the table land above, down along the side of the river bluff at Mendota to the beach below. The recent appropriation of \$15,000 it is proposed to apply to the construction of a causeway and the necessary bridges across Hay Creek marsh, and the construction of a bridge over Cannon river and bottom, (both of them very heavy works,) and the balance wherever most needed on the road.

For all these roads I find that, in consequence of my having taken the costs of the roads built by the general government in Wisconsin as a basis, when the standard of excellence to which they have been worked has been higher, the leaving in margin of profit to the contractor, and the underrating in some degree the cost of labor in the distant and more inaccessible parts of the roads, I have underrated the cost of their completion. Taking, then, the data which have been furnished me by the contracts which have been already completed as a basis, I estimate the balances necessary to be appropriated in order to the completion of the roads, exclusive of the appropriations which have already been made, as follows:

For the road from Point Douglass to the mouth of the St. Louis river.....	\$50,639 00
For the road from Point Douglass to Fort Ripley.....	18,190 00
For the road from the mouth of Swan river to the Winnebago agency, at Long Prairie.....	3,653 00
For the road from Wabasha to Mendota.....	19,434 00
Total amount required.....	<u>91,916 00</u>

Road from Mendota to the mouth of the Big Sioux river.—Having but recently been entrusted with the general superintendence of this road, and all the arrangements for its progress not having as yet been matured, I can say nothing more than when I am put in possession of all the maps and estimates in relation to it, I shall lose no time in applying the recent appropriation of \$20,000 in the mode required by the department. No further estimates are made for it for the reason that by the recent act the amount appropriated, according to the decision of the department, is to *complete* the road.

In regard to *the importance of completing all these roads in the shortest period possible*, there is not the slightest question. In order that this may be seen more clearly, I will repeat what I have said in former reports on this subject, making, however, such additional remarks as may be required by the present condition of the roads.

The Point Douglass and St. Louis river road is of the utmost consequence, in the accommodation it will afford to the lumber interest high up the St. Croix, upon Snake river, and Kettle river, and their tributaries; this road being the only avenue, especially in the winter, by which supplies can be transported to these points for the maintenance of those engaged in the trade. During every other season except the

winter these supplies, in consequence of the utter impassability of the roads on account of swamps, and marsh, and rich, moist, shaded soil, have to be boated up swift streams, where the boatmen, in addition to the weariness of poling against a strong current, have not unfrequently to contend against formidable rapids and falls by resorting to portages around them. At present the road is available for travel at every season, from its northern terminus to the 79th mile station, just beyond Sunrise river. But beyond this, as far as Pokigoma, a distance of 21 miles, only a narrow way has been cut out, which, on account of swamp and marsh, can only be used in winter; and from Pokigoma to the terminus of the road, a distance of about 90 miles, there is not as much as a well defined trail upon which a man on horseback can travel.

But there are other and very important reasons why this great thoroughfare should be opened. It is the grand connecting link between the head of navigation on the great northwestern lakes and the head of navigation on the upper Mississippi; and it only remains for this avenue of communication to be made to at once open to market the extensive mineral and fishing interests of the great Lake Superior region. Nor is this all. Its extensive bearings and connexions with the great centres of trade at the east, by means of water and railroad communications, (and which are about to be perfected by the ship-canal around the falls of St. Mary,) and with the south and west by means of the Mississippi, make it certain that this road is destined to bear a mighty tide of travel and commerce upon it.

The Point Douglass and Fort Ripley road runs through a portion of the Territory to which emigrants are flocking in considerable numbers. It is the great highway by which the government supplies reach the Indians in the Winnebago territory and in the Chippewa district. It is also the road by which the government supplies are transported to the troops at Fort Ripley.

The Swan river and Long Prairie road is a branch road from the Point Douglass and Fort Ripley road, and is the one by which the government supplies are conveyed to the Winnebago agency at Long Prairie.

The Wabasha and Mendota road is the road by which supplies—in the fall and spring, when the steamboats cannot get up the Mississippi any further on account of ice in Lake Pepin—are carried from the foot of the lake to the towns above. It is also a link in the great highway of travel and commerce from Iowa to St. Paul—a highway which must always, on account its being so much shorter, be preferred to the parallel points on the east side of the Mississippi.

But, in addition to all the reasons I have adduced in favor of an early completion of the road referred to, the great one of developing the resources of the country is yet to be stated. The Territory of Minnesota is, as I believe, peculiarly the land for health, enterprise, and enjoyment, and, as such, in connexion with its genial soil, is destined to become the *El Dorado* of all who to a good soil wished to see conjoined a pure bracing atmosphere, and beautiful and variegated

scenery. How important, then, that on these, as also on the other accounts mentioned, these roads should be opened at the earliest possible period.

All of which is respectfully submitted.

J. H. SIMPSON,

Captain Corps Topographical Engineers.

Col. J. J. ABERT,

Chief of Corps of Top. Engineers, Washington, D. C.

OFFICE GENERAL GOVERNMENT ROADS, TERRITORY MINNESOTA,
St. Paul, October 10, 1854.

SIR: In reviewing my annual report of September 15, I perceive that in my estimate of the balance which will be necessary to complete the Point Douglass and St. Louis river road, I have left out the additional amount which will be required to extend the road to the mouth of the St. Louis river, as required by the recent act of Congress. Inclusive of all expenses of surveys, engineering, and construction, I estimate this additional cost, the distance being, say 25 miles, at \$15,000. The total amount required, then, to complete the whole road from Point Douglass to the mouth of the St. Louis river, over and above what has been already appropriated, I estimate at \$65,639.

I respectfully request that this statement may be considered a part of my annual report.

I am, sir, very respectfully, your obedient servant,

J. H. SIMPSON,

Captain Corps Top. Engineers.

Col. J. J. ABERT,

Chief Corps Top. Engineers, Washington, D. C.

REPORT OF THE CHIEF OF ORDNANCE.

ORDNANCE OFFICE,
Washington, October 24, 1854.

SIR: The principal operations of the Ordnance Department during the last fiscal year, arranged in order under their respective heads, are respectfully reported as follows:

Funds.

Amount undrawn from the treasury on the 1st July, 1853, as per last year's report	\$263,077 26
In hands of disbursing officers, same date.....	255,078 25
Amount of appropriations for the fiscal year 1853-'54, including the fixed annual appropriation for arming and equipping the militia.....	1,000,665 00
Received during the year for damages to, and losses of, arms, &c., in hands of troops, chargeable to them, and from all other sources not before mentioned.....	97,346 00
	1,616,166 51
Amount of expenditures during the year.....	993,103 74
In hands of disbursing officers, 30th June, 1854.....	170,807 90
Remaining in treasury, undrawn, 30th June, 1854.....	452,254 87
	1,616,166 51

The amount expended during the year from each appropriation will be found stated under the respective heads as they occur. The accounts of all the disbursing officers have been regularly forwarded to, and examined in, this office, and transmitted to the proper accounting officer of the treasury for settlement, excepting those of the officer at Monterey, California, to the non-reception of which his attention has been called, and which he attributes to the failure of the mails from that place. Measures have been taken to secure their regular transmission hereafter. The estimates for the next year have been prepared with care, and with as much regard to economy as is consistent with a proper provision for the wants of the public service.

Armament of fortifications.

The principal articles procured for the armament of fortifications by purchase and fabrication from the foundries and arsenals are as follows, viz.:—

31	10-inch columbiads.		
14	8 do	do	
7	10 do	do	barbette carriages.
28	8 do	do	do do

6	32-pounder	barbette	carriages.
52	24	do	do do
16	32	do	casemate do
15	24	do	howitzer carriages for flank defence.
8	24	do	barbette chassis.
7	32	do	casemate do
5	10-inch	columbiad	upper carriages.
240	10	do	shot.
300	8	do	do
822	10	do	columbiad shells.
1,654	8	do	do do
6,750	cartridge bags, different calibres.		
6,790	cubic feet of timber for sea-coast carriages.		

There are orders out, not yet executed, for more of the heavy columbiads and their projectiles, and also for supplies of carriage timber for this description of cannon. These, with other orders to be given, but temporarily delayed to await the action of the Board on the armament of fortifications, will probably absorb the unexpended balance of the appropriations for this object. This department has also, under this branch of its duties, repaired and kept in order the armament of the several forts in the country, supplied the fortifications in the harbor of San Francisco with a portion of their armament, and sent to the Rio Grande the garrison guns requisite for the forts on that frontier. The expenditures on that account during the fiscal year have amounted to \$106,332 27. The measures which have been pursued for some years past to improve the quality of cast iron cannon, and to apply tests of strength and endurance more reliable than the mere powder proof, have resulted satisfactorily. Reports, in detail, of the methods which have been pursued, and the experiments which have been instituted and carried out for this object, as also of those for the improvement of small arms, will be submitted as soon as they can be properly arranged, and the drawings requisite for their proper illustration can be prepared. They are believed to be of sufficient interest and value to warrant their publication for general distribution, particularly those in regard to cast iron, which will prove valuable not only to cannon-founders, but to all who are engaged in manufactures into which that material enters. They will, accordingly, be prepared and presented with that view.

The superiority in range and accuracy of fire of elongated balls, fired from grooved or rifled barrels, has induced investigations in relation both to the most advantageous shape of the ball and the best mode of grooving the arm. Some experiments in regard to both these points have been made with the service rifle, and it is intended to prosecute them further, and to apply them also to the musket. Two of these arms have been prepared for the purpose, with their barrels grooved on different plans, but they have not been tried. The experiments which have been made are not yet complete; but so far as they have gone, the results indicate that considerable improvement over the present mode of grooving our service rifles may be made, both in the facility of loading and the accuracy of fire with elongated balls. In the expe

riments which have been made the best results were obtained from a ball of the same exterior shape as the French ball for the "*à la tête*" arm, but differing from it, and also from the Minnie ball, in being so made as to expand by the force of the charge of powder without the aid of an iron culot or cup in the end; or, in other words, a simple, instead of a compound expanding ball. This ball gave more accurate firing at the same distances than the Pritchett (English) ball of the same diameter. The French balls, of the firing with which we have any reports, are of greater diameter and weight, and the same comparison with them cannot be made.

Of the several modes of grooving tried, varying from each other in the number of grooves and in the relations between the grooves and the lands, the best results have been obtained from the five grooved bore, with lands and grooves equal, and the grooves of circular arcs with a depth of two-hundredths of an inch. Those which have been tried are seven, five, and three grooves, with lands and grooves equal, and five broad grooves with narrow lands. In all these trials the depth of the grooves from the breach to the muzzle was uniform; but there is reason to suppose that an improvement in this respect may be made by having grooves of a decreasing depth from the breach, becoming shallow at the muzzle, whereby the ball will leave the piece with less expansion. The want of a proper machine for this kind of grooving—but which there will be found little difficulty in obtaining—has prevented any trials of this plan so far. Indeed, the necessity of doing the new kinds of grooving by hand (machinery being adapted only to a special mode) has retarded the preparations for experiments, while their execution has been similarly affected by the removal of army officers from public armories.

The results stated to have been obtained in foreign services, and those derived from our own limited experiments, indicate so great a superiority of the rifled bore with the elongated expanding ball, that it seems not improbable that the use of smooth-bored arms and spherical balls may be entirely superseded. This will render it necessary to institute and carry out experiments to ascertain whether it will be possible to adapt our present musket to the safe and easy use of the elongated ball, and if not, to find out what is the calibre and model of arm best calculated to take its place as a military weapon for the general service of infantry. Such experiments it is intended to have made as soon as practicable. In the meantime it is manifestly inexpedient, with our present stock of some half million of smooth bored arms, to go on increasing the supply of arms of this model. The manufacture should be suspended until our own experiments, or decisive results of the trials in actual warfare now going on, may settle the question as to the kind of weapon that will be hereafter used.

Ordnance, ordnance stores, and supplies.

The principal articles under this designation, which have been procured by purchase and fabrication at the arsenals, are as follows, viz:

40 siege guns of different calibres.

6 eight-inch siege howitzers.

28 bronze field guns of different calibres.
 33 bronze field howitzers do. do.
 25 field carriages.
 12 caissons.
 10 traveling and portable forges.
 2 battery wagons.
 1,076 shot and shells of different calibres.
 50 Sharp's carbines.
 910 swords and sabres.
 10,097 infantry cartridge boxes.
 7,855 do. cartridge box belts.
 7,443 do. bayonet scabbards, with frogs.
 13,875 do. gunslings.
 5,025 do. waist belts.
 28,163 cap pouches and cone picks.
 442 rifle pouches.
 304 flask and pouch belts.
 660 rifle cartridge boxes.
 297 sword shoulder belts.
 3,074 carbine cartridge boxes.
 267 pairs of holsters.
 885 sabre knots.
 1,834 spherical case shot, different calibres.
 10,066 pounds of canister shot do.
 5,182 stands of fixed ammunition for field service.
 675 stands of ammunition for siege and garrison services.
 722,493 cartridges for small arms.
 217,500 percussion caps for small arms.
 614,000 Maynard's primers.
 4,000 friction primers for cannon.
 5,900 cubic feet of timber, for siege and field carriages.

The expenditures from this appropriation during the fiscal year amounts to \$230,978 73.

The quantities and kinds of arms, ammunition, and other ordnance supplies issued for the United States service during the same period are mentioned in statement C, hereto annexed.

National Armories.

The expenditures at these armories during the fiscal year have been as follows, viz :

	Harper's Ferry.	Springfield.	Total.
Manufacture of arms, appendages, tools, &c., and purchase of materials for the same.....	\$111,672 58	\$145,776 67	\$257,449 25
Repairs, improvements, and new machinery..	60,023 04	9,547 41	69,570 45
	171,695 62	155,324 08	327,019,70

The manufactures at Harper's Ferry include 9,000 percussion muskets and 2,761 percussion rifles, with 26,098 appendages for the same, consisting of extra cones, wipers, spring-vices, screw drivers, ball screws and bullet-moulds; also 13,153 hammers and screw-drivers for percussioning muskets, and 10,653 assorted components for issue to other posts for the repairs of arms. At Springfield armory the manufactures include 11,000 percussion muskets and 2,000 cavalry musketoon, with 89,374 appendages, consisting of like parts with those before mentioned. The cost of the finished musket at Springfield armory during the year, is reported at \$10 61, and at Harper's Ferry at \$11 98; that of the finished rifle with steel barrel is stated to be \$12 32. The operations at the armories during the year are stated in detail in the reports of their commanding officers hereto annexed. Since the close of the year the charge of the national armories has been taken from officers of the army and given to civilians, in compliance with law.

Arming and Equipping the Militia.

The amount of expenditures, during the fiscal year, from this appropriation, was \$156,145 43. The principal articles procured on this account by purchase and fabrication were:

- 5 prairie carriages.
- 12 caissons.
- 1,900 rifles and appendages.
- 4,000 cavalry pistols and appendages.
- 1,000 Colt's pistols and appendages.
- 690 cavalry sabres.
- 1,000 horse artillery sabres.
- 500 artillery swords.
- 9,941 infantry cartridge-boxes.
- 10,183 infantry cartridge-box belts.
- 15,304 infantry waist belts.
- 6,608 infantry bayonet scabbards and frogs.
- 11,413 gun-slings.
- 1,333 cap-pouches.
- 324 sword shoulder belts.
- 2,000 copper powder-flasks.
- 636 rifle-pouches.
- 1,650 flask and pouch belts.
- 3,000 rifle cartridge-boxes.
- 1,030 cavalry sabre belts.
- 236 pairs of holsters.
- 569 sabre knots.
- 300 horse artillery sabre belts.
- 600 artillery sword belts.
- 160 pistol cartridge boxes.
- 13,000 percussion caps.

The apportionment of arms and the supplies furnished to the militia during the year are shown in the statements A and B hereto annexed. I respectfully renew the recommendation, heretofore frequently made,

and which experience has shown to be requisite for the apportionment to each State and Territory of its proper and just quota, of a change in the present law, so as to adopt for all the States and Territories the mode of apportionment authorized for the State of Iowa by the act of 3d March, 1853, which was according to representation in Congress.

Arsenals and Depots.

The expenditures from the appropriation for arsenals, during the last fiscal year, amount to \$63,684 54. The work done under this head includes repairs and preservation of public buildings, fences, wharves, &c., the erection of new and additions to old buildings, and all improvements of a permanent character. The reports of the commanding officers of the principal arsenals, hereto annexed, give detailed statements of the chief operations at each. The whole number of arsenals and depots, which have been in use during the year, are twenty-six; one of which has lately been broken up, and the site directed to be sold.

During the last session of Congress the inquiry was made as to the expediency of ceding the arsenal near St. Louis to that city, on which subject a special report was made from this office, dated January 27, 1854. As this matter may be again brought up for action, I refer to that report as containing the only conditions on which the cession can be made without very great injury to the public service and interest. The estimate there made for erecting an arsenal on the public reservation near Jefferson Barracks, and the removal of the ordnance stores, should be increased to \$300,000. The whole of this amount will probably be required to place the arsenal and public supplies in as serviceable a condition as before the cession, and it is but little, if any, more than a third of the present value of the land alone which it was proposed to cede to the city.

I have included in my estimates for the next year the means for establishing arsenals in Texas, New Mexico, and Oregon, and for continuing the construction of the arsenal in Benicia as soon as a satisfactory title to the site can be obtained. The want of such title has prevented the expenditure of the appropriation for the Benicia arsenal, made at the last session of Congress; but it is expected that the title will be secured sufficiently early to allow the advantageous application of that sum, and also the amount of the present estimate, before the close of the next year. The necessity for these arsenals is stated in the remarks appended to my estimate therefor.

The exclusion of the enlisted men of ordnance (the only enlisted men in the army so excluded) from the benefits of the act to increase the pay of the rank and file of the army, is so manifestly unjust towards them, and so evidently the mere result of the phraseology of the act, and contrary to its spirit and intent, that a reference to it is supposed to be sufficient to insure its correction by explanatory legislation. As there is no conceivable reason for excluding this portion of the rank and file of the army from the benefits conferred on all the rest, I trust that the attention of the legislature will be called to it, and that a declaratory act will be passed including the enlisted men of ordnance

in the provisions of the act "to increase the pay of the rank and file of the army and to encourage enlistments," from its date.

A. K. CRAIG, *Colonel of Ordnance.*

Hon. JEFF'N DAVIS,
Secretary of War.

A.

Apportionment of arms to the militia for the year 1853, under the act for arming and equipping the whole body of the militia.

States and Territories.	For what years re- turns received.	Number of militia.	Number of arms ap- portioned in mus- kets.
Maine	1853	55,713	313
New Hampshire.....	1853	33,576	189
Massachusetts	1853	140,456	789
Vermont	1843	23,915	134
Rhode Island.....	1853	15,972	90
Connecticut	1853	60,844	342
New York.....	1853	311,313	1,749
New Jersey.....	1852	81,984	461
Pennsylvania	1847	276,070	1,551
Delaware	1827	9,229	52
Maryland	1838	46,864	263
Virginia.....	1853	125,217	704
North Carolina.....	1845	79,448	446
South Carolina.....	1848	55,209	310
Georgia*.....	1850	78,699	442
Florida	1845	12,122	68
Alabama.....	1851	76,662	431
Louisiana	1851	53,230	299
Mississippi	1838	45,385	255
Tennessee	1840	71,252	400
Kentucky	1852	88,858	499
Ohio	1845	176,455	992
Michigan.....	1852	64,669	363
Indiana	1832	53,913	303
Illinois.....	1851	170,359	957
Wisconsin.....	1853	46,760	263
Iowa*			195 5-13
Missouri	1844	61,000	343
Arkansas.....	1843	17,137	96
Texas.....	1847	19,766	111
California.....	1853	201,400	1,132
Minnesota Territory.....	1851	2,003	11
Oregon Territory	No return.		
Washington Territory.....	No return.		
Territory of Utah.....	1853	2,821	16
Territory of New Mexico.....	No return.		
District of Columbia.....	1852	8,201	46
		2,566,502	14,615 5-13

* According to 2d section of act of March 3, 1853.

A. K. CRAIG, *Colonel of Ordnance.*

ORDNANCE OFFICE,
Washington, October 24, 1854.

B.

Statement of the ordnance and ordnance stores distributed to the militia under the act of April, 1808, from 1st July, 1853 to the 30th June, 1854.

- 2 6-pounder iron guns.
- 2 12-pounder bronze guns.
- 30 6-pounder bronze guns.
- 1 12-pounder mountain howitzer.
- 12 carriages for field artillery, with implements and equipments complete.
- 1 caisson with tools and spare parts.
- 13 sets of artillery harness for two wheel horses.
- 10 sets of artillery harness for two lead horses.
- 40 leather traces for wheel horses.
- 40 leather traces for lead horses.
- 16 leg guards.
- 28 artillery whips.
- 8 nose bags.
- 6 cannon locks.
- 2 valises and straps.
- 8 6-pounder sponges and rammers.
- 1,799 muskets and appendages.
- 20 cadets' muskets and appendages.
- 1,496 rifles and appendages.
- 151 carbines and appendages.
- 40 cavalry musketoons and appendages.
- 40 percussion, (Hall's) rifles.
- 1,310 percussion pistols and appendages.
- 10 Colt's pistols and appendages.
- 698 cavalry sabres.
- 290 horse artillery sabres.
- 41 non-commissioned officers' swords.
- 100 musicians' swords.
- 50 cadets' swords.
- 4,611 sets of accoutrements, for infantry, riflemen, and cavalry.
- 540 infantry cartridge boxes.
- 500 infantry cartridge box belts and plates.
- 1,100 infantry waist belts and plates.
- 1,000 bayonet scabbards and frogs.
- 1,500 cap pouches and picks.
- 420 rifle pouches.
- 420 flask and pouch belts.
- 420 copper powder flasks.
- 131 sword shoulder belts.
- 688 cavalry sabre belts.
- 215 horse artillery sabre belts.
- 645 pairs of holsters, with caps.
- 115 sabre knobs.
- 75 pistol cartridge boxes.
- 39 carbine slings.
- 39 carbine swivels.
- 40 carbine buckets.

300 artillery sword belts.
 500 musket screw-drivers.
 90 rounds of fixed ammunition.
 6,000 cartridges for small arms.

A. K. CRAIG,
Colonel of Ordnance.

ORDNANCE OFFICE,
Washington, October 24, 1854.

C.

Ordnance and ordnance stores issued to the army, and to the several military posts, for the year ending June 30, 1854.

16 24-pounder guns.
 8 12-pounder bronze guns.
 11 6-pounder bronze guns.
 2 32-pounder bronze howitzers.
 2 24-pounder bronze howitzers.
 5 12-pounder bronze howitzers.
 4 mountain howitzers.
 10 10-inch columbiads.
 34 8-inch columbiads.
 4 10-inch siege mortars.
 10 8-inch siege mortars.
 4 24-pounder barbette carriages.
 10 10-inch columbiad barbette carriages.
 34 8-inch columbiad barbette carriages.
 12 24-pounder seige carriages.
 4 10-inch mortar beds.
 10 8-inch mortar beds.
 8 12-pounder carriages.
 16 6-pounder carriages.
 2 32-pounder howitzer carriages.
 2 24-pounder howitzer carriages.
 28 caissons.
 4 battery wagons.
 7 travelling forges.
 102 24-pounder cannon balls.
 300 10-inch cannon balls.
 1,050 8-inch cannon balls.
 1,220 10-inch columbiad and mortar shells.
 3,000 8-inch columbiad shells.
 3,859 stands of ammunition for field service.
 7,970 stands of ammunition for siege and garrison service.
 1,378 muskets and appendages.
 86 rifles and appendages.
 219 cavalry pistols and appendages.
 10 Colt's pistols and appendages.
 357 musketoons and appendages.
 232 cavalry sabres.

95 artillery sabres.
 54 artillery swords.
 94 non-commissioned officers' swords.
 53 musicians' swords.
 536 sets of infantry accoutrements.
 176 sets of rifle accoutrements.
 1,232 infantry cartridge boxes.
 914 cartridge box belts.
 1,240 bayonet scabbards.
 1,082 waist belts.
 1,121 cap pouches and picks.
 995 gun slings.
 132 sword shoulder belts.
 241 sabre belts.
 207 carbine slings and swivels.
 220 sabre knots.
 443 carbine cartridge boxes.
 54 artillery sword belts.
 19,070 cartridge bags, for siege and garrison service.
 5,326 cartridge bags, for field service.
 214,000 cartridges, for small arms.
 5,300 pounds cannon powder.
 400 pounds rifle powder.
 7,100 cannon primers.
 950 friction primers.
 9,972 priming tubes.
 215 portfires.
 1,550 pounds of paint.
 153 pounds of tallow.
 334 gallons oil.
 81 gallons coal tar.
 34 pounds beeswax.

A. K. CRAIG,
Colonel of Ordnance.

ORDNANCE OFFICE,
Washington, October 24, 1854.

SPRINGFIELD ARMORY, COMMANDED BY BREVET LIEUTENANT COLONEL
 J. W. RIPLEY.

*Statement of the principal operations at the armories and arsenals during
 the year ending June 30, 1854.*

The principal operations at this armory during the year were as
 follows:

Fabricated.

10,000 percussion muskets, including three adapted to the Maynard
 primer.
 2,000 cavalry musketoons.
 23,892 cones, extra.
 20,206 wipers.

13,331 screw-drivers.
 17,096 hammers.
 6,970 ball screws.
 7,879 spring vices.
 563 arm chests.
 11 packing boxes.

Machinery fabricated and in progress.

1 milling machine, completed.
 1 machine for twisting wipers completed.
 1 shaving machine, still in progress.

A large amount has been expended for repairs of tools and machinery, leaving them at the end of the year as valuable and efficient as, if not more so, than they were at its commencement.

Buildings.

The repainting of the public buildings on the hill, in progress at the time the last report was made, was continued and completed during the last season. Since that report one of the arsenals, the office building, and the shops have been repainted and furnished with lightning rods; the cupola of the office new roofed, &c., and the tin roof of the forging, steam, and machine shop, which was partially blown off by a gale, has been repaired.

Grounds.

The grounds west of the new arsenal have been repaired, and the embankments secured against heavy rains, &c.

HARPER'S FERRY ARMORY, COMMANDED BY MAJOR W. H. BELL.

The principal operations at this armory were as follows:

Musket factory.—Arms and appendages fabricated.

9,000 percussion muskets, model 1842, complete.
 10,973 cones, extra.
 2,755 wipers.
 1,065 spring vices.
 5,256 hammers for percussioning flint-lock muskets.
 7,897 screw-drivers do do do.
 9,652 components, assorted, for issue to other posts.
 5,000 rifle cartridges do do do.
 2 swedges for elongated balls do do.

Machinery fabricated and in progress.

- 1 machine for bending wipers, half done.
- 2 lathes for turning barrels, repaired and improved.
- 2 regulators for water-wheels, do do.
- 1 machine for banding stocks, do do.
- 3 trip-hammers for screws and barrels, do do.
- 1 drilling-machine, three spindles, fabricated.
- 1 lathe for turning iron, large, purchased and being fitted up.
- 1 do do hand, do do do.
- 8 new cutting machines, do do do.
- 1 large force pump for throwing water in case of fire, completed with all its machinery, connected with the water-wheel, with cast iron gearing.
- 1 frame belt tilt hammer, for forging pins, complete.
- 1 water hydrant on street, established in rear of offices.
- 1 water-wheel governor, put in position at water-wheel boring mill.

Extensive improvements have been made to the main and counter lines of driving machinery in the first and second floors of bell shop and boring mill, and some new and additional main and counter line put up in the new machine shop and stocking shop.

Many machines transferred and put in position in stocking shop, to facilitate the operations.

Buildings.

New Arsenal.—Foundation for this building nearly excavated. The lumber, cast-iron pillars, window and door frames, and roof irons purchased and delivered.

New rolling mill, 146 by 45 feet, one story of 16½ feet, built of brick, on stone foundation, covered with slate; paved with stone, and having two reverberatory furnaces, with stacks 45 and 40 feet high; two tilt-hammers, one forge, one large lathe for rollers, two train of rollers, 13 and 8 inches; large shears, fan-blower, water-wheel, 15 feet cube, master wheel and gearing, pullies and other machinery, one large cast-iron flume from canal to forebay is now completed, except the two tilt-hammers, part of the pavement, lathe and shears, forebay, part of machinery for driving fan-blower, which is not in position. It is expected that this mill will be ready for operations on or before the first of October next.

Master armorer's quarters, also, the five buildings occupied by the clerks, have been generally repaired, painted and plastered. New kitchen built to master machinist's quarters, principally of old materials; and other repairs. Many of the workshops have been repaired in various respects.

Grounds.

Armory canal at the head, repaired; a wall of 200 feet, 4½ feet high, 3 feet thick, built to prevent wash, and large sand bars removed from the bed of the canal. Lock gates and head gates at the stone forebay improved.

Thirty coal-bins, each about 15 by 17 by 29 feet deep, under trestle

work of Baltimore and Ohio railroad, have been filled in with earth and made suitable for the reception of coal and other stores. Seven of the old buildings occupying reserved ground have been removed, and sold to be removed.

RIFLE FACTORY.

Arms and appendages fabricated.

- 2,761 percussion rifles, steel barrels, brass mounting.
- 2,761 cones, extra.
- 3,109 wipers.
- 3,105 screw-drivers.
- 550 ball screws.
- 685 spring vices.
- 880 bullet moulds, for round balls.
- 209 bullet moulds, for conical balls.
- 1,001 components, assorted, for issue to other posts.
- 6 bullet moulds, for elongated balls.

Experimental arms.

- 1 percussion rifle, steel barrel, 32 to the pound.
- 2 percussion rifles, steel barrels, 24 to the pound.
- 5 bullet moulds, for elongated balls.
- 5 swedges, for elongated balls.

Buildings.

New coal house, built of brick, covered with sheet-iron, 21 by 25 feet, one story of 15 feet.

Old forging shop repaired for a stock house, and laid with two new floors.

Machinery fabricated and in progress.

12 feet counter line shafting fabricated and four feet purchased, with new lathe, and put in position.

Governor to water-wheel at barrel drilling shop put up; the main line shafting in machine shop improved.

One large force pump, for throwing water in case of fire, has been put in position, with the required gearing, connected with the water-wheel at the machine shop.

Extensive repairs made to water-wheel and forebays at the finishing shop.

Counter machinery on first floor of barrel drilling shop changed and altered.

Anvil blocks in forging shop altered and improved.

Counter machinery fabricated and put in position in the basement of new machine shop, for lathe for first turning stocks and driving circular saw for cutting stocks to length.

WATERVLIET ARSENAL, COMMANDED BY MAJOR JOHN SYMINGTON.

Report of operations at Watervliet arsenal for the year ending June 30, 1854.

1,007 barrels of powder in magazine overhauled and re-proved.

70,642 small arms, stored in the arsenal, cleaned, oiled, and re-packed or boxed.

2 large iron double gates made and hung at the principal entrance to arsenal grounds.

80 rods of wire fencing with wrought iron posts put up; and 4 new lamps for gas lights made, and 6 others altered and set up.

4 lightning rods and poles put up at east magazine.

90,000 feet of gun-carriage and implement timber received, piled, and arranged in timber stores.

Patterns, formers, &c., made for new pattern 8 and 10 inch columbiad barbette carriage and platform.

A new furnace made for heating traverse circles of columbiad platforms, and those for case-hardening and brass casting renewed.

Stone foundation and frame of large timber crane renewed; new epreuve platform made; canal basin cleaned out and deposit hauled to fill low grounds.

Wood barn on the lower grounds removed and rebuilt near the stables on the grounds west of the canal.

The following repairs and improvements to buildings, &c. made:

Brick Arsenal.—10 double racks, with shelves, put up for arranging stores, a part of them fitted with gas-tarred canvas lining to secure sponges, cartridge bags, &c. from moth.

North Brick Quarters.—Slate roof repaired, (injured by the hurricane of March,) new floors laid in basement, stone steps leading from basement to yard renewed; also, the stone foundation supporting the gallery.

South Brick Quarters.—Plastering in one of the rooms renewed and painted, slate roof damaged by storm repaired.

North Stone Quarters.—Plastering renewed in the hall, slate roof, doors and window-shutters damaged by storm repaired.

South Stone Quarters.—Damaged by fire, caused by defective flue, in January. The main hall and north side rooms from basement up replastered, repainted, and most of the wood-work renewed, including the stairway; the two furnaces and hot-air flues remodeled.

North and South Carriage Stores.—The sheet-iron doors and window-shutters removed and replaced by wood lattices on the iron frames, so as to give better ventilation.

Barracks.—The small lead pipe conducting water from cisterns to barracks taken up and replaced with cast-iron pipe, new alarm-bell hung in east gallery, slate roof damaged by storm repaired.

The following other buildings suffered more or less damage by the storm of March 18 in their roofs, chimneys, doors, shutters, &c., which damages have all been repaired: *Stone arsenal, nitre store, iron store, west magazine, stables, laboratory No. 2, paint shop No. 3, carriage shop*

No. 4, and *machine shop* No. 6. The fences also generally repaired where damaged.

The principal stores fabricated and work executed consist of the following gun carriages, &c.:

- 24 field caissons.
- 18 field gun and howitzer carriages.
- 10 8-inch columbiad barbette carriages.
- 10 8-inch do. do. chassis.
- 7 10-inch do. do. carriages.
- 12 10-inch do. do. chassis.
- 16 32-pounder casemate chassis.
- 15 circular platforms for columbiads.
- 5 platforms for siege carriages.
- 12 ammunition chests for mountain howitzers.
- 2 pent-houses for 10-inch columbiads.
- 3 sling carts, large, with chains, trunnion rings, &c., complete.
- 1 two-horse wagon.
- 24 spare wheels for field carriages.
- 29 do poles do. do.
- 1 battery wagon, } Fitted up with tools and spare parts for issue.
- 5 field forges, }
- 23 leading bars for siege carriages.

Artillery Implements and Equipments.

- 17 sponge buckets, iron, for field guns.
- 33 do. do. wood, for garrison.
- 123 tar do. iron, for field.
- 128 watering do. leather, for field.
- 100 chocks for siege and garrison carriages.
- 126 breech sights for garrison guns and columbiads.
- 90 fuse setters, brass.
- 16 do. mallets.
- 43 do. plug reamers.
- 5 do. do. sets.
- 8 do. do. taps.
- 38 do. do. wrenches.
- 2 gunner's gimlets.
- 151 do. haversacks.
- 28 do. pouches.
- 12 do. levels.
- 30 do. quadrants, wood.
- 7 muzzle lights.
- 6 splints.
- 20 quoins for siege carriages.
- 36 pass-boxes.
- 152 linstocks.
- 92 lock and vent covers.
- 68 vent punches.
- 32 loading tongs.
- 90 tow-hooks.

- 205 tarpaulins, 12 by 15 feet.
- 19 do. 5 by 5 do.
- 264 tube pouches.
- 36 tangent scales for field guns.
- 15 pendulum hausses for field guns.
- 52 prolonges for field carriages.
- 402 lanyards for cannon locks and primers.
- 116 trail handspikes for field carriages.
- 410 handspikes, garrison and manœuvring.
- 44 do. truck, for columbiads.
- 1 lifting jack.
- 51 tompions for siege howitzers and columbiads.
- 11 elevating bars for columbiads.
- 145 blocks and rollers and skids, assorted.
- 76 chocks, assorted.
- 1 garrison gin-fall, with collar and stakes.
- 1 single fall.
- 8 double and single prolonges for mechanical manœuvres.
- 88 lashing lines and cords for do. do.
- 6 sling and trace ropes for do. do.
- 42 wrenches for columbiad carriages.
- 160 rammers and staves for garrison guns and columbiads.
- 245 sponges and staves for do. do. do.
- 190 do and rammers do. do. do.
- 198 sponge covers, for garrison and columbiad implements.
- 232 sponge covers, for field and siege implements.

Ammunition.

- 475 shells and spherical case shot, strapped for siege guns.
- 611 rounds grape and canister shot, for siege guns.
- 440 rounds shot, shells, and canister, fixed for field guns.
- 26 cannon wads, for proving columbiads.
- 1,127 cannon cartridges, assorted.
- 10,893 cartridge bags, for garrison guns and columbiads.
- 7,998 priming tubes.
- 12,748 priming tubes, empty.
- 2,940 8-inch fuses, wood.
- 9,242 paper fuses, for garrison guns.
- 1,525 brass fuse-plugs, for 10-inch columbiads.
- 3,800 brass fuse-plugs, for 8-inch columbiads.
- 3,777 wood fuse-plugs, for siege guns.
- 119 canister tops and bottoms, for garrison guns.
- 27 canisters, for garrison guns.
- 267 grape shot bolts, for garrison guns.
- 347 grape shot rings, for garrison guns.
- 7,905 sabots, assorted, for field ammunition.
- 3,506 sabots, for 8 and 10-inch columbiad shells.
- 981 cartridge blocks, for field ammunition.
- 6,765 cartridge blocks, for 8 and 10-inch columbiad shells.

Artillery harness.

- 9 sets, complete, for 2 lead horses.
- 270 nose bags.
- 252 whips.
- 151 bitts, curb, plated.
- 12 breechings.
- 72 belly-bands.
- 88 collars.
- 16 girths.
- 36 halters.
- 27 billets.
- 20 leading reins.
- 165 pairs brass stirrups.
- 123 hame straps.
- 65 breast and hip straps.
- 160 traces, leather, wheel and lead.

Miscellaneous.

- 8 fencing bayonets.
- 2,850 cap pouches.
- 1 gauge ring for 10-inch shells.
- 8 gauge fuse holes, for shells.
- 295 pounds mixed paint.
- 20 pounds soft solder.
- 8 pairs moccasins.
- 598 packing boxes.

Altered or repaired.

- 3,407 cannon cartridges.
- 1,870 rounds of ammunition, for field guns.
- 332,600 cartridges, for small arms.

ALLEGHENY ARSENAL, COMMANDED (TEMPORARILY) BY LIEUTENANT
T. J. RODMAN.

The principal operations at this arsenal during the year were as follows:

Articles fabricated.

- 12 6-pounder field carriages.
- 2 travelling forges.
- 2 battery wagons.
- 41 iron sponge buckets.
- 94 wooden sponge buckets.
- 80 iron tar buckets.

- 15 wooden water buckets.
- 59 fuse-plug receivers.
- 2 gunner's callipers.
- 72 gunner's gimlets.
- 15 gunner's haversacks.
- 44 gunner's pincers.
- 69 trail handspikes.
- 97 manœuvring handspikes.
- 68 nose-bags.
- 320 driver's whips.
- 22 lanterns, assorted.
- 59 lock covers.
- 118 priming wires.
- 68 sponge covers.
- 16 sponges and staves.
- 5 tangent scales.
- 2 tarpaulins, small.
- 150 thumbstalls.
- 154 tow-hooks.
- 60 vent punches.
- 28 worms and staves.
- 19 10-inch oakum wads.
- 11,954 infantry cartridge boxes.
- 10,950 do. do. do. plates.
- 5,414 do. do. do. belts.
- 7,620 do. do. do. do. plates.
- 9,171 bayonet scabbards with frogs.
- 16,050 gun-slings.
- 5,075 infantry waist belts.
- 5,070 do. do. plates.
- 27,033 cap pouches and cone picks.
- 1,078 rifle ball pouches.
- 954 rifle pouches and flask belts.
- 1,890 rifle waist belts.
- 1,890 rifle waist belt plates.
- 3,734 rifle and carbine cartridge boxes.
- 160 pistol cartridge boxes.
- 4,957 rifle and cavalry cartridge box plates.
- 300 artillery sabre belts.
- 503 pairs of holsters.
- 480 soft leather caps.
- 727 sword shoulder belt plates.
- 950 sergeants' and musicians' waist belts.
- 9,100 do. do. do. plates.
- 773 sabre belts.
- 1,454 sabre knots.
- 42 10-inch (proof) cartridges.
- 212 6-pounder (proof) do.
- Fire-works for celebrating the anniversary of national independence.
- 109 boxes for battery wagon stores.
- 24 field carriage fellies.

- 10 splinter bars.
- 40 spokes for field carriages.
- 5 6-pounder stocks, (ironed.)
- 14 caisson and 9 battery wagon stocks, ironed.
- 1 artillery saddle, Grimsley's pattern.
- 18 do. bridles, do. do.
- 12 brass plated bridle belts.
- 6 horse collars.
- 48 saddle girths.
- 6 halters.
- 25 hame straps.
- 20 leather traces and 20 valises.
- 100 pounds wrought and horse-shoe nails.
- 18 jackscrews, and a large number of battery wagon stores and tools.
- 556 packing boxes, and tools, &c., for current service.
- 2 10-inch sponges and staves.
- 1 coal box, 1 burnisher, 1 fire bucket.
- 2 turning chisels, 1 tin can.
- 20 formers, (cast iron.)
- 6 moulder's flasks, (cast iron.)
- 1 lens and mirror.
- 21 patterns for castings, and several other articles made for the current service of the post.

Other work done.

- 1,185 flint-lock pistols altered to percussion.
- 151,000 ball and buck shot, flint-lock musket cartridges, altered to percussion.
- 160 feet of work-benches, made.
- 56 cutting boards, made.
- 13,840 muskets cleaned, &c.
- 211 square yards of paved gutter, and,
- 148 lineal feet of barrel sewer made.
- 10 perches of stone wall, and,
- 127 square feet brick wall built.
- 40,000 feet of carriage timber taken down and repiled.
- 50,000 feet of carriage timber taken down, cut to proper lengths, and repiled.
- 40,000 feet of carriage timber hauled from the upper park shed to the lumber shed, and repiled in it.
- 47,000 feet of carriage timber inspected, hauled, and piled in shed; the centre heart bored out of the large pieces of carriage timber which had been received with it in.
- A board fence, 579 feet long and 9 feet high, and a shed 40 feet long and six feet wide, erected.
- The old lime-house and 75 feet of protection wall removed.
- 430 lineal feet of wooden gutters, covered with copper, made, and put on the brick warehouse.

A coal-house and privy, 29 feet long, 12 feet wide, and 10 feet high, built and covered with zinc.

A roof, 165 by 30 feet, covered with zinc.

4 heavy wooden gates, made and hung.

2 hammered stone wing walls, 17 feet long and $9\frac{1}{2}$ feet high, and 4 cut stone piers built.

282 lineal feet of cut stone coping dressed and laid.

5 feet of each of 23 chimneys, 10 feet of each of 5 chimneys, and 16 feet of one chimney, taken down, re-built and painted.

322 square feet of lath and plaster partition put up.

The old case-hardening furnace taken down, and a new one built in another place.

2 large bins, for forage, put up.

The interior arrangement of 19 ammunition chests altered.

1,566 loads of gravel, sand, &c., hauled and spread on the public walks, roads, &c.

1,900 pounds of lead, hauled to Pittsburg, rolled, and brought back.

22 10-inch columbiads, inspected, proved, and hauled from the proving ground to the arsenal.

94 barbette carriages taken down, their axles, &c., oiled, and then placed on blocks to preserve them from damp.

A room 19 feet by 20 feet, partitioned off in the new machine shop engine-house, and fitted up for drying accoutrements, &c.

The quarters, barracks, shops, magazines, laboratories, stables, protection walls, walks, roads, machinery, tools, harness, gas and water works, &c., kept in good order.

Work done in the new machine shop and its engine-house :

16,600 feet of oak flooring laid.

16,600 feet of pine ceiling put up and painted.

2 flights of stairs, each 25 by $4\frac{1}{2}$ feet steps ; and 1 flight of stairs 23 by 3 feet steps ; and 126 lineal feet of balusters and hand-rails made and put up.

13 doors, 75 windows, 23 girders, and 2 hatches, cased.

An opening over the new engine cased and railed.

1,800 square feet of brick flooring laid.

2,175 square yards of plastering put up.

75 windows painted.

WASHINGTON ARSENAL, COMMANDED BY BREVET MAJOR A. MORDECAI.

The operations at this arsenal during the last year have been conducted on the same limited scale as for several previous years, and offer no results worthy of special notice.

The following list shows the principal articles fabricated at the arsenal during the year :

52 24-pounder barbette gun carriages.

60 24-pounder barbette gun chassis.

8 portable forges,

8 sets carriage-maker's tools,

10 sets of iron work for caissons.

} for mountain service.

Ex. Doc. 1—24*

- 6 hand sling carts.
- 27 pendulum hausses for field guns.
- 3,751 rounds of fixed ammunition for field service
- 114,000 Maynard's primers for small arms.
- 62 pole straps and pads for field carriages.
- Parts of 100 sets of artillery harness.
- Various tools and stores for the service of field batteries.

Permanent improvements.

For the reasons stated in several of my last annual reports, no estimate was presented last year for making permanent improvements, and none is now offered except for the necessary repairs and preservation of the buildings and stores. The condition of the principal workshops, as described in my reports and in those of the inspector of arsenals, continues to become worse every day, and yet it is not advisable to take any steps towards rebuilding them on their present sites, or extensively repairing them, on account of the insecure foundation on which they rest. On this subject I can only repeat the suggestions so often made heretofore, as to the necessity of procuring a retrocession of the grounds which were taken from the arsenal to accommodate the penitentiary buildings. It is only in this way that a proper site can be obtained for building new workshops in a style creditable to the Ordnance Department, and suitable for an establishment at the seat of government.

FORT MONROE ARSENAL, COMMANDED BY BVT. MAJOR G. D. RAMSAY.

Since the last annual report the marsh adjoining the ordnance stables has been filled in, so far as the injunction of the courts of Virginia in the case of *French vs. United States* would admit of.

No other permanent improvement has been carried on.

Work done.

The following summary exhibits the principal ordnance stores which have been fabricated during the year, viz :

- 16 32-pounder casemate gun-carriages.
- 15 24-pounder howitzer casemate gun-carriages, complete.
- 6 32-pounder barbette carriages, with chassis.
- 10 sets iron work, complete, for 24-pounder barbette carriages.
- 54 casemate gun-carriages, supplied with elevating screws and eccentric rollers.
- 8 budge barrels.
- 60 manœuvring handspikes.
- 50 pass-boxes.
- 41 24-pounder rammers and staves.
- 41 24-pounder sponges and staves.
- 182 tube pouches and a quantity of artillery implements.
- 114 rounds of ammunition for cannon.

- 50 stands of 24-pounder grape shot.
- 851 cartridge bags for cannon.
- 1,500 portfires and 100 signal rockets.
- 3,400 paper fuses for field ammunition.
- 1 casemate gun, 6 lifting jacks.
- 1,070 pounds brass castings, for parts of gun carriages.
- 54 packing boxes.

Average force employed at the arsenal: 28 mechanics and laborers, and 12 enlisted mechanics and laborers.

The amount of disbursements at this arsenal during the year was \$19,150 11.

Experiments.

Experiments were made to test the adaptation of an elevating screw to the 10-inch seacoast mortar; also to test the 10-inch columbiad gun carriage. Reports in full, with accompanying drawings, were transmitted to the ordnance office. In addition to these, there were experimental firing of a rifled cannon, with flanged shells, in April, June, and July, the results of which are reported in detail.

ST. LOUIS ARSENAL, COMMANDED BY CAPTAIN R. H. K. WHITELEY.

The operations at this arsenal during the year embraced the following:

1. *Carpenter's shop*.—This building, 42 feet by 70, and $2\frac{1}{2}$ stories high, which was reported last year in progress of construction, has been completed, painted, and occupied.

2. *Timber shed*.—30 feet by $192\frac{1}{2}$, 1 story high, brick end walls, brick piers, and spaces between the piers filled with slats, so as to admit a free circulation of air, has been finished and filled with lumber and siege carriages. This building was reported nearly completed June 30, 1853.

3. $203\frac{1}{2}$ feet heavy coping, (cut stone,) laid on walls of bastard range work between officers' quarters and principal storehouse, and $203\frac{1}{2}$ feet of iron musket railing, made and set up, complete, on coping.

4. The roofs and windows of nearly all the buildings at this arsenal and on the magazine lot, northern end of Jefferson Barracks Reserve, were damaged by a tornado, April 26, 1854. The repair of all, with one exception, has been completed, and 1,079 lights of glass replaced.

5. Pond between coal-house and western wall filled up; 1,600 loads of sand carted from the river bank for this purpose.

Fabricated.

- 12 sponge and 21 tar buckets, iron.
- 100 cannon lock cords.
- 40 cannon spikes.
- 31 fuse plug reamers.
- 22 linstocks.
- 14 pendulum hausses, seats, and muzzle sights.

25 prolonges.
 54 6-pounder sponges and rammers.
 1 4-pounder sponge and rammer.
 27 tangent scales.
 127 thumb-stalls and 42 vent punches.
 2,688 rounds of ammunition for field artillery.
 2,720 cartridge bags.
 170,790 cartridges for small arms.
 7,050 paper fuses.
 500 signal rockets.
 55 staves for sponges and rammers.
 230 rammers and sponge heads.
 185 fellies and 200 spokes for field carriages.
 32 cannon lock pins and screws.
 11 cap square chains.
 434 cold shut S links.
 10 hounds for field carriages.
 30 keys for ammunition chests.
 20 key chains and rings.
 15 linch-pins.
 20 stay-pins.
 14 pounds nails, Nos. 1 and 2.
 28 nave bands, developed.
 22 nuts, assorted.
 47 spare poles and straps.
 38 pole and pad rings, keys and chains.
 4 splinter bars.
 6 stocks, caisson and battery wagon, not ironed.
 600 leather straps for ammunition chests.
 36 trays straps for ammunition chests.
 54 double eyes for artillery.
 1,338 chains for leather traces.
 1,338 loops and 4,014 rivets for leather traces.
 4,162 sabots for field ammunition.
 5,340 fuse plugs and 92 tin cans.
 1,328 arm-chests and packing boxes.
 55 battery wagons and fuse boxes.
 5 sets of irons and brass boxes for grindstones.

Repaired.

1,093 small-arms.
 188 artillery harness.
 45 pack-saddles and harness.
 4 carriages, 4 caissons, 1 travelling forge, and 1 battery wagon,
 received from light company E, 3d artillery, and returned.

Altered.

2,401 small-arms from flint-lock to percussion.
 2,861 pistols do. do. do.

315,997 cartridges for small-arms from flint lock to percussion.
 29,615 small-arms cleaned and oiled.
 Parts of muskets and carbines finished.

Received from foundry and inspected.

135 24-pounder shells and spherical case shot.
 1,505 12-pounder do. do. do.
 466 6-pounder do. do. do.
 5,154½ pounds 6-pounder canister shot.
 5,012½ pounds 12-pounder howitzer shot.

WATERTOWN ARSENAL, COMMANDED BY MAJOR E. HARDING.

STATEMENT OF THE PRINCIPAL OPERATIONS AT THE WATERTOWN
 ARSENAL, DURING THE YEAR ENDING JUNE 30, 1854.

Articles fabricated.

21 8-inch columbiad gun-carriages, new pattern.
 24 8-inch columbiad chassis, new pattern.
 28 8-inch columbiad platforms, new pattern.
 1 8-inch columbiad carriage-model, quarter size.
 1 platform for 10-inch siege and garrison mortars.
 16 8-inch elevating jacks.
 30 chocks for columbiad carriages.
 21 elevating bars for columbiad carriages, (iron.)
 84 handspikes, truck, (iron.)
 499 handspikes, manœuvring, for garrison carriages.
 64 lanyards for cannon locks and primers.
 30 priming-wires for siege and garrison carriages.
 2 rammers and staves for 8-inch columbiad.
 16 tompons for do.
 6 vent punches.
 24 wrenches for columbiad carriages.
 197 wads, junk and hay.
 35 8 and 10-inch cartridge-bags.
 1,820 do. sabots.
 391 do. cartridge-blocks.
 2 lifting-jacks.
 100 pounds of horse-shoes.
 365 feet of iron pipe.
 749 pounds mixed paint.
 4 screw-wrenches.
 1 covered wagon.
 86 packing-boxes.
 1,532 feet brick sewer.

Other work.

50 barrels cannon powder proved.

240 cannon—various calibres—cleaned, oiled, and lackered.
 10,704 24-pounder shot cleaned, oiled, and lackered.
 340 feet of iron skidding cleaned, oiled, and lackered.
 4,680 muskets cleaned and oiled.
 10,715 yards of painting put on public buildings.
 2,541 handspikes painted.
 24 ammunition-chests painted.
 68 8-inch rammers, sponges, worms, and staves painted.
 60 budge-barrels, linstocks, pass-boxes, and shell-hooks painted.
 25 24-pounder barbette carriages oiled.
 21 8-inch carriages complete, painted.
 3,140 lights of sash, drawn.
 40 ceilings of public buildings cleaned and whitened.
 10,850 yards of fence whitewashed.
 6,825 feet road way excavated and filled in with stone.
 6,129 feet trench, for water-pipe, excavated and refilled.
 312 feet coping of public buildings repaired.
 55,441 feet oak timber piled.
 45,178 feet chesnut timber piled.
 41,096 feet pine timber piled.
 7,749 feet walnut timber piled.
 2,859 feet poplar timber piled.
 1,728 feet hickory timber piled.
 45,537 pieces for stockrail carriages, piled.
 432 naves turned and painted.
 989 loads of topsoil, stone, and gravel, hauled for grading and improving public grounds.

Officers' quarters, barracks, shops, and stores, repaired and kept in order as the service required; a night watch was kept up throughout the year for the protection of public grounds, buildings, and other property. Much other labor was performed of a public nature, which, if detailed, would unnecessarily swell the length of this report.

NORTH CAROLINA ARSENAL, COMMANDED BY CAPT. J. A. J. BRADFORD.
 STATEMENT OF THE CHIEF OPERATIONS AT THIS ARSENAL, DURING THE
 YEAR ENDING JUNE 30, 1854.

Under the appropriation for arsenals.—Work done on quarters No. 2, unfinished.—One hundred and ninety-six superficial yards plaster and 140 lineal feet of plaster cornice done in interior; foundations of front portico excavated and 65 cubic feet stone and 167 feet brick masonry laid therein; columns, entablature, and floor of rear piazza placed and painted; south piazza finished and painted; ridge-lead of roofs painted; doors finished and framed; all the window-sash finished, glazed, and fitted in place; stone quarried and cut for plat and coping of portico; cover prepared for attached cistern; building temporarily closed to protect its interior from the action of the weather, &c.

On repairs of quarters, No. 1.—Old blinds of rear piazza windows removed; new frames substituted for old; new blinds substituted for old; 128 lights sash made, glazed, and fitted; doors made for north

and south entrances of piazza; all this wood-work and some old wood-work painted; all the exterior stone-work weather proof painted, and brick-work yellow washed, &c.

On magazine for powder in bulk.—Plat stone of entrance, steps cut, &c.

On connecting walls, &c.—One hundred and two superficial feet stone coping cut; picket fence erected and two gates fitted in the same.

Cistern constructed; portions of *terre-plein* of square graded; brick removed from kilns and stacked; portions of connecting walls yellow washed; quarry operations begun and 200 cubic feet of stone quarried; roadways within and exterior to square repaired of frequent damage by rain wash; upwards of 2,000 trees in rear grounds trimmed and undergrowth, rubbish, &c., removed. Same in square, but of less extent; old fence removed, and 83 lineal feet of division fence erected on south side of square; old clay-mill shed removed from former brick yard; old refuse lumber lying near it collected and piled; drain opened to relieve square of interior wash; 21,287 superficial feet lumber received, measured, and stacked for drying; plats of square planted in grass-seed, &c.; boundary fence inspected, and repaired from time to time.

Ordnance service.

Eight thousand and six muskets, inspected, cleaned, oiled, &c.; bronze battery, carriages, &c., repeatedly cleaned, dusted, aired, &c.; battery harness, oiled; quarry tools, implements, &c., made, repaired, &c., from time to time; 150 bushels, smiths' coal hauled from river to post; police, ventilation, &c., of public stores, magazines, and general police of post, and care, and preservation of grounds, &c.

FRANKFORT ARSENAL, COMMANDED BY BREVET MAJOR, P. V. HAGNER.

PRINCIPAL OPERATIONS AT FRANKFORT ARSENAL, DURING THE YEAR
ENDING JUNE 30, 1854.

Buildings.

A two-story brick dwelling for master armorer has been erected near the shops—main building 28 by 28 feet, with one-story back building 21 by 15 feet, with cellar under main building. A frame shed at the matron's quarters, a shed to the stable, and a portico to the commanding officer's quarters, have likewise been completed. Lightning rods have been attached to all the buildings not previously provided with them. All necessary repairs and such improvements as were authorized, have been made to the various buildings. Much of this work has been done by the labor of the enlisted men.

Roads and grounds.

Eight hundred running feet, sixteen feet wide, of the road-way in front of the arsenal, have been macadamized, and work done in filling up and grading the low grounds, and improving the roads within the

enclosure, with manifest advantage to the general health of the residents, and to the appearance of the arsenal.

The plan adopted for cultivating the grounds continues to work well. A large and increasing proportion of the forage required is obtained from the public grounds at a cost much below the present market rates.

Machinery and shop-work.

The chief work assigned to this arsenal has been the manufacture of percussion caps, friction tubes for cannon, and primers for small arms, altered according to Maynard's plan. No change has been found requisite in the machinery for making caps; during the year 400,000 have been made, and the machine will be worked from time to time in order to keep the requisite supply on hand.

As all the trials of the friction tubes yet made have resulted satisfactorily, and the tube has been approved by the Ordnance Board, the arrangements for the manufacture of them have been extended so as to facilitate and economise their fabrication. A new machine for drawing the tubes is nearly finished, and a very neat machine for cutting, milling, and drilling the tubes at one handling, is in successful operation; 58,000 have been made during the year.

After many experiments with a view to the improvement of Maynard's primers, as required by orders dated July 30, 1853, and April 8, 1854, it was found that a string of primers could be made of paper sufficiently water-proof for the usual requirements of service, superior in this respect to those previously made, and nearly equal to percussion caps. To facilitate the manufacture, a machine was constructed for charging and pressing the sheets of primers, and also a machine for slitting the sheets into strips; both of these work effectually and economically; 240,000 have been made of paper, and experiments are now in progress with a view to use sheet copper for the purpose, so that the primers will be a string of caps exactly like the present cap, and consequently equally water-proof. A strip of this kind, made at Watervliet, under Major Laidley's directions, gave very satisfactory results before the Ordnance Board, and it seems probable that all objections to the use of copper for the strips can be overcome.

During the year, 2,020 muskets have been altered to percussion, and a large number of musketoon, pistols, and sabres, have been thoroughly repaired.

A saddler has been employed very advantageously in repairing and refitting leather accoutrements, &c., partly worn, a large quantity of which has been collected during many years. The belts have been blackened, and cartridge boxes and cap pouches reformed and repaired.

NEW YORK ARSENAL, COMMANDED BY BVT. MAJOR W. A. THORNTON.

REPORT OF OPERATIONS AT THIS ARSENAL DURING THE YEAR.

Constructed two cisterns for supplying water to store-houses and

barn, each cistern 12 by 12 feet; also 329 feet of 12-inch sewer to remove surplus water from cisterns, through privies.

Barracks and quarters have been enlarged by extending the walls of out building up one story, to obtain additional dwelling apartments.

Fabricated.

- 23 platforms for siege carriages, complete.
- 500 6-pounder flannel cartridge-bags.
- 49 arm-chests, with hinges, clasps, and corner irons.
- 88 lanyards for cannon locks.
- 35 cone picks.
- 2 muzzle sights for 6-pounder guns.
- 1 drill stock iron.
- 1 crank and frame for grindstone, for issue.
- 1 tinner's furnace and soldering irons.
- 4 shoulder washers for field carriages.
- 4 swedges, smith's.
- 1 screw driver and 7 spring bolts, large size.
- 745 pounds paint, for issue and use.
- 12 pounds spikes and rivets.
- 400 bolts, nuts, and washers, for barbette carriages.
- 16 doors and gates.
- 180 feet copper gutter and pipe.
- 40 windows and sky-lights.
- 158 packing boxes.

Repaired.

- 15 muskets, by stocking and many new parts, for troops.
- 10 swords, by new scabbards, handles, and cleaning.
- 3 6-pounder carriages, by many new parts and painting.
- 2 6-pounder caissons, by many new parts and painting.
- 9 ammunition chests, new lined and painted.
- 1 garrison-gin, by new pry-pole and painted.
- 61 garrison buckets, new bottoms and painted.
- 28 sponges, adapted to 24 and 32-pounder heads, &c.
- 1 budge-barrel, new leather top and painted.
- 3 dark lanterns, new horned lights and painted.

Other work done.

- 65 parts of carriages dressed out, assembled and prime painted.
- 15,041 muskets, pistols, rifles, and carbines, cleaned, oiled and reboxed.
- 6,476 swords and sabres cleaned, oiled, and reboxed.
- 5,128 cannon locks cleaned, oiled, and reboxed.
- 8,500 cartridge boxes and pouches cleaned and reboxed.
- 24 cannon locks adjusted to guns.
- 600 square feet of temporary shot-bed put down.
- 15,879 balls and shells re-examined by gauging.
- 87,810 balls and shells cleaned, lackered, and piled.

351 guns, howitzers, and columbiads reskidded.
 501 guns, howitzers, columbiads, and mortars cleaned and lackered.
 49 iron-top carriages and mortar-beds cleaned and lackered.
 5,500 6-pounder balls and case shot boxed for shipment.
 1,575 boxes of stores, strapped with hoops, for shipment.
 209 barrels powder recoopered by setting 200 new hoops.
 64 packing boxes repaired.
 50 casks of cement recoopered and lined for shipment.
 2,056 cubic yards filling and excavation.
 Cisterns made, buildings repaired and painted, and large quantities
 of supplies received and issued.

Inspection at contract establishments.

50 carbines, Sharp's patent.
 10 rifles, Porter's patent.
 3,900 rifles, percussion, steel barrels.
 4,000 pistols, percussion, steel barrels.
 1,000 pistols, Colt's patent.
 8,045 infantry cartridge boxes.
 4,728 infantry cartridge box plates.
 7,800 cartridge box belts.
 4,174 cartridge box belt plates.
 10,410 waist belts, 1½ inches wide, (privates.)
 6,600 waist belt plates.
 7,310 bayonet scabbards.
 188 bayonet scabbard belts.
 800 bayonet scabbard belt plates.
 9,288 gun slings.
 705 rifle pouches.
 1,734 rifle pouch and flask belts.
 3,075 rifle cartridge boxes.
 3,128 rifle cartridge box plates.
 1,110 rifle waist belts, 1.9 inches wide.
 725 rifle waist belt plates.
 800 carbine cartridge box plates.
 746 cavalry sabre belts.
 905 artillery sword belts and plates.
 590 cavalry sabre belt plates.
 227 non-commissioned officers' shoulder belts.
 448 non-commissioned officers' shoulder belt plates.

BENICIA ARSENAL, COMMANDED BY BREVET CAPTAIN C. P. STONE.

REPORT OF THE PRINCIPAL OPERATIONS AT THIS ARSENAL DURING THE
 YEAR ENDING JUNE 30, 1854.

Buildings erected.

A substantial storehouse, 100 feet long by 40 feet wide, two stories high, has been completed.

Another storehouse, of the same dimensions, was commenced during the month of March, 1854, by order of Brevet Major General Wool, commanding the department of the Pacific, but was not completed for want of funds. This storehouse, as well as a magazine and quarters for officers and men, are much needed at this post, as the men are quartered in the shops. The officers have to provide for themselves; and the powder and ammunition are stored in a wooden building, and necessarily in the same room with other stores, while much valuable property remains without store-room.

A quarry of excellent stone has been opened on the arsenal grounds, and substantial buildings can now be erected here with little more expense than in the Atlantic States.

Fabricated during the year.

- 37,950 cartridges for small arms.
- 15 large tarpaulins.
- 33 arm chests.
- 54 ammunition packing boxes.
- 48 rounds mountain howitzer ammunition.
- 662 6-pounder cartridges.
- 6 trail handspikes.
- 2 grates for heating 32-pounder shot.
- 1 4-wheeled truck for hauling stone.
- 200 fuses (paper cases) for columbiad shells.
- 20 priming-wires, and a large quantity of tools, tables, benches, &c., for fitting up the laboratory and shops, and for quarrying stone.

Repaired.

- 999 percussion muskets made serviceable.
- 413 bayonets, 2 cavalry musketoons, 1 cavalry pistol, 22 musicians' swords, 16 non-commissioned officers' swords, 1 12-pounder field howitzer carriage, 1 12-pounder caisson, 2 6-pounder field carriages, 2 8-inch barbette carriages, and 15 pintle crosses, all made serviceable.
- 1 sling cart, 1 wagon, 1 stone truck, and 5 arm chests, repaired.

Other work done.

- Shot bed, 100 feet long, 9 feet wide, of stone and cement, made.
- 26,458 shot and shells, scraped, lackered, and piled.
- 20 barbette chassis and carriages scraped and painted.
- 9 32-pounder guns, 5 8-inch navy guns, and 10 24-pounder guns, mounted and placed in batteries for the defence of San Francisco harbor.
- Supplies of ammunition furnished.
- 595 infantry cartridge box belts, and 101 cavalry sabre belts, white, changed to black.
- The ordnance and ordnance stores required for the troops in the de-

partment of the Pacific, have been, with few exceptions, packed and sent from this arsenal.

MOUNT VERNON ARSENAL, COMMANDED BY LIEUT. J. GORGAS.

Report of the principal operations at the post, for the year ending June 30, 1854.

Quarters No. 1 have been repaired according to the estimate; the piazza on the west side is enclosed, and the frame wing addition has been replaced by a brick one two stories high, and 17 feet square. These quarters are now in good order.

The painting and repairs of the arsenal have been completed, and that of the barracks, with the exception of the wooden cornice of the piazza of second story, and the brick pavement of first story.

The old office has been taken down, except such parts of the wall as were sound, and rebuilt with a pitch of 13½ feet. A piazza has been added to the south side. This is completed throughout.

All the buildings, except quarters, and nearly all the bricks walls, have been cement-washed.

The alteration of flint to percussion muskets was begun in June, and 400 completed.

A force of carpenters and laborers has been kept at work in the repair of the armaments of Forts Pickens and McRee, since the first of May. The barbette guns, hitherto so much exposed, have been stowed away in casemates, secured from the weather, and will not again need repairs for many years. Both these forts will be in good order, as to their armament, by the middle or close of October. The repairs of the carriages (except axle bodies) have been made with the heart pine (light wood) of the country.

Eight pent-houses have been made at this post and forwarded to Pensacola harbor, for the guns there kept mounted in barbette.

VANCOUVER DEPOT, WASHINGTON TERRITORY, IN CHARGE OF MILITARY STOREKEEPER T. J. ECKERSON.

In accordance with article 149 of the Ordnance Regulations, the following is reported as the principal operations at this post during the year ending June 30, 1854:

A temporary magazine of wood, 15 by 30 feet, has been built to answer the purpose of storing ammunition and powder, until permanent buildings are erected.

The expedition conducted by Brevet Captain G. B. McClellan, corps of engineers, as well as that under Lieutenant R. Saxton, 4th artillery, both connected with the Northern Pacific railroad survey, were supplied with arms, &c., from this depot. Arms and ammunition were also furnished, on the requisition of the governor of Oregon, for the sup-

pression of Indian difficulties in the Rogue river valley in that Territory.

77 boxes of stores received and issued.

24 sets harness cleaned and oiled.

Small arms in store oiled and repacked.

Stores removed from old to new magazine.

5 field carriages,

6 caissons,

1 battery wagon, and

2 traveling forges,

} painted.

A. K. CRAIG, *Colonel of Ordnance.*

ORDNANCE OFFICE,

Washington, October 24, 1854.

REPORT OF THE SECRETARY OF THE NAVY.

NAVY DEPARTMENT,

December 4, 1854.

SIR: In the annual report from the Navy Department, which I now have the honor to present, I have taken the liberty, in addition to the usual statement of the operations of the squadrons and the general condition of the service and the public property, to recommend a still further gradual increase of the Navy, and to express frankly my views of the great importance of its reorganization, and the enactment of new regulations for the discipline and improvement of seamen. If they are urged with seeming pertinacity, my only apology is, a deep interest in the magnitude of the subject, and a conviction of the necessity of legislative interposition.

SQUADRONS.

The vessels composing the Home Squadron are, the frigate *Columbia*, the flag-ship, Commander S. B. Wilson; the sloops-of-war *Albany*, Commander J. T. Gerry; *Falmouth*, Commander T. D. Shaw; and the steamers *Princeton*, Commander Henry Eagle; and *Fulton*, Lieutenant Commanding J. K. Mitchell. Commodore J. T. Newton still commands this squadron. The cruising of the vessels of the squadron has been principally among the West India islands, and along the coasts bordering on the Caribbean sea and the Gulf of Mexico.

The *Columbia* returned to Norfolk, in obedience to orders from the Department, and on the 28th June sailed, under instructions to Commodore Newton, on special duty to St. Domingo. Having thoroughly surveyed the Bay of Samana and ascertained its depth and character, and examined the localities in its vicinity with reference to fitness for a convenient depot for naval purposes, the *Columbia* returned to Pensacola, and is now under orders to proceed to San Juan de Nicaragua, conveying to that point Mr. Wheeler, United States Minister Resident to Nicaragua, and Mr. Marlin, United States Minister Resident to Guatemala. The *Princeton*, Commander Eagle, sailed from Norfolk on the 31st of October for Pensacola, and will proceed on her cruise as a part of the Home Squadron. The *Albany*, Commander Gerry, in pursuance of the orders of the Commodore, has been actively cruising during the entire year, having visited, among other ports, those of Samana, Sisal, St. Thomas, La Guira, Curaçoa, Carthagena, Aspinwall, San Juan, Port Royal, and St. Jago de Cuba. She has done good service, and Commander Gerry and his officers merit the approbation of the Department, as I have reason to know that the appearance of our flag at those ports, and the bearing of the officers, contributed much to

the encouragement and protection of our citizens engaged in commercial transactions in those regions.

The last official intelligence received from the Albany was on the 28th of September from Aspinwall, informing the Department that on the ensuing day she would sail for New York. There is no doubt of her having put to sea at the time mentioned. Much time having elapsed and no tidings of her having been received, it is but natural that painful anxiety should be felt, touching her fate. The prevalent opinion is, that she has sustained serious injuries from encountering storms recently prevalent in her course homeward, and that she has put into some port for repairs. With a view of obtaining information and affording relief, the steamer Princeton left Pensacola some days ago in search of the Albany. The Department still entertains the opinion that she is safe.

The Fulton, which until the 24th of April was under the command of Lieutenant James M. Watson, was in useful service, and having visited many of the ports of the West Indies, returned to the United States. On the 17th May she left Norfolk under the command of Lieutenant Mitchell, conveying to the port of Vera Cruz the Hon. Mr. Gadsden, our Minister to Mexico, and bearer of the treaty recently concluded between the United States and Mexico, where she remained until the treaty was ratified, and with it returned to the port of Washington, where she has since been necessarily detained, and is now ready for service.

The practicability of inter-oceanic communication by the construction of a ship canal across the Isthmus of Darien, between Caledonia bay and the Caribbean sea and the Gulf of San Miguel, on the Pacific has long been a subject of much speculation and controversy among men of science and learning. The magnitude of the work, and wonderful influence which its successful accomplishment might exert upon the commerce of the world, and more especially upon the intercourse between our Atlantic and Pacific possessions, induced the Department, with your approbation, to accept the services of an accomplished and enterprising officer of the Navy, Lieutenant I. G. Strain, who volunteered to undertake the exploration. The Caribbean Sea being embraced within the limits assigned as a cruising ground for the Home Squadron, the Department concluded that the Cyane, Commander Hollins, might, with great propriety, cruise in that region, take proper soundings at Caledonia Bay, and at the same time, with but little additional expense, convey any party that might volunteer to engage in the arduous and interesting exploration. Passed Midshipman Truxton, First Assistant Engineer J. M. Maury, Midshipman H. M. Garland, and a few civilians, and seamen from the crew of the Cyane, also volunteered to embark in the adventure. The permission of the New Grenadian government having been cheerfully given, the Cyane sailed from Philadelphia in December last, and arrived at Porto Escoces, on Caledonia Bay, on the 17th of January. The party were landed, and proceeded to execute the special duty assigned. They succeeded in crossing the Isthmus, and returning, after encountering sufferings and hardships, and exhibiting powers of endurance, a spirit of enterprise, and a generous devotion to duty, eminently creditable to them as offi-

cers, and honorable to them as men. A few of the seamen and civilians were unable to bear up under their trying exposure, and expired. The Cyane returned with the party to New York. I refer you, however, for a more particular recital of the details of the expedition, to the interesting report of Lieutenant Strain which accompanies this communication, from which you will perceive that he is very decidedly of opinion that the work is totally impracticable, and thus, I apprehend, settles the question forever.

It is proper that I should remark that the officers of her Britannic Majesty's ship *Virago*, on the Pacific, were prompt and generous in extending timely relief to the suffering party, and that a proper appreciation of it has been officially communicated to her Britannic Majesty's government.

Intelligence having been received that the property of American citizens had been improperly detained by the people of San Juan de Nicaragua; that our Minister to Central America, Hon. Mr. Borland, had been treated with rudeness and disrespect, and that the interests of our countrymen required the immediate presence of a man-of-war in that neighborhood, the *Cyane*, being the most available vessel for that purpose, in obedience to instructions from the Department, put to sea again on the 19th of June.

On her arrival at San Juan, Commander Hollins, learning from Mr. Fabens, the United States Commercial Agent at that place, that the demand made by him, by order of the State Department, for a proper reparation of wrongs committed by them, had been treated with derision and contempt, after due deliberation, thought it expedient, through Mr. Fabens, to make a final demand upon the inhabitants for a satisfactory adjustment. As the result was entirely unsatisfactory, Commander Hollins gave notice on the 12th of July, by a proclamation posted in the most public places, that if the proposed terms of settlement were not complied with, he should, at 9 A. M. of the 13th, proceed to bombard the town of San Juan, to the end that "the rights of our country and citizens may be vindicated, and as a guarantee for future protection." He had hoped that the show of a determination on his part would, at this stage of the proceedings, have brought about a satisfactory adjustment: such, however, was not the case.

His appeals for adjustment were disregarded. His proclamation was only read to be treated with contempt. His return to his country after all this, without inflicting some punishment upon these lawless and reckless people, he thought would be but a signal for a renewal of insults and outrages. Having tendered boats for the removal of property and persons to all who would avail themselves of them, he bombarded the place and destroyed most of their property, without loss of life. I could not reprove this commander for his conduct. Humanity often lends her sympathies to the sufferer, however just the punishment, but patriotism rarely condemns the brave officer who administers that punishment from a sense of justice to his countrymen whose property is destroyed and whose national flag is insulted. We may well regret the stern necessity which constrained him, but it should be remembered that Commander Hollins had been compelled but a year before to in-

terfere and stop these same people in their progress of destruction of American property ; that he had, besides, seen the report of our Minister speaking of them as "being persons, almost without exception, of notoriously bad character—some of them discharged penitentiary convicts and refugees from justice, habitually manifesting evil dispositions towards our citizens, and indulging those dispositions to the injury of persons and property whenever they are not restrained by force," and that he was "unable to regard them in any other light than as pirates and outlaws;" that he knew that this ungoverned populace had for a season restrained an American Minister's personal liberty and rudely assailed him ; that they had retained and refused to surrender the stolen property of some of our countrymen ; that they contemptuously turned a deaf ear to his appeals for adjustment, and that his alternative was to inflict punishment or return to his country with a well-armed national vessel and report that he had demanded satisfaction, and, upon being treated with contempt, had felt it his duty to come home.

Rash impetuosity on the part of those who hold in their hands, to some extent, the elements of war, cannot be too strongly discountenanced. No officer should dare trifle with them. But I think that an acquaintance with all the facts and calm reflection will relieve our own people (who are justly sensitive of national honor) from any fear that a wrong has been perpetrated, and a reference to history may well silence the criticism of others.

The *Cyane* requiring extensive repairs, and owing to the condition of the crew from the unhealthiness of that climate and their previous exposure in the bay of Caledonia, her return to the United States became necessary. After receiving on board the archives of the Commercial Agency and Mr. Fabens and his effects, Commander Hollins proceeded to Boston, and the vessel on the 1st of September was put out of commission for the purpose of repairs, which are now completed.

The *Falmouth*, Commander Shaw, has been very recently put in commission, and will proceed to sea in a few days.

The Brazil Squadron, Commodore W. D. Salter, has attached to it the flag-ship *Savannah*, Commander Samuel Mercer ; the sloop-of-war *Germantown*, Commander W. F. Lynch ; the brig *Bainbridge*, Lieut. Commanding C. G. Hunter ; and the store-ship *Relief*, Lieut. Commanding S. C. Rowan. The store-ship *Relief* returned to New York on the 29th of July for fresh supplies, and having taken in her cargo, sailed for Rio on the 24th of September.

The sloop-of-war *Jamestown*, which at my last report formed one of this squadron, having completed her cruise, returned to the United States and arrived at Philadelphia on the 2d of May.

The steamer *Water Witch*, Lieut. Commanding T. J. Page, is still actively engaged in the surveys of the rivers Uruguay and Parana.

This squadron is efficiently engaged in taking care of the interests of our country in that region, with which our commercial transactions are rapidly growing.

The African Squadron, Commodore Isaac Mayo, consists of his flag-ship, the frigate *Constitution*, Commander J. Rudd ; the sloops-of-war

Marion, Commander H. Y. Purviance, and Dale, Commander Wm. C. Whittle. The brig Perry, Lieutenant R. L. Page, after having been on the station two years, arrived at Norfolk on the 15th of July. The Constitution and the Marion will be relieved early in the ensuing year, at which time they will have been two years on that station.

The vessels of this squadron have been actively, and in many instances successfully, engaged in checking the slave trade, and some of them have been regularly cruising on the coasts most frequented by slavers. The officers in command have also had it in their power to render assistance to merchant vessels in distress, and to our growing commerce, exposed to many dangers on the African coast.

The Mediterranean Squadron, Commodore S. H. Stringham, consists of his flag-ship, the frigate Cumberland, Commander A. A. Harwood; the steam-frigate Saranac, Captain J. C. Long; the sloop-of-war St. Louis, Commander D. N. Ingraham, and Levant, Commander C. C. Turner. The Cumberland will be relieved early in the spring, and authority has been given for the return of the Levant and St. Louis early in the ensuing year.

This squadron, during the past year, has visited many of the ports of Italy, Sicily, the Archipelago, and Greece, and also the coasts of Spain and Barbary; and has kept a watchful eye over American interests in the Mediterranean.

The Saranac, under instructions from the department, conveyed Mr. Chandler, the United States consul-general to Tunis, from Marseilles to Tunis, where he was landed on the 13th of July with the usual honors.

The East India Squadron consists of the sloop-of-war Macedonian, Captain Joel Abbot, the senior officer on the station; the steam-frigate Powhatan, Captain W. J. McCluney; and the sloop-of-war Vandalia, Commander John Pope. The steam-frigates Mississippi and Susquehanna, the sloop-of-war Plymouth, and the store-ships Southampton, Supply, and Lexington, are now on their way home—the steamers returning by the way of San Francisco. Commodore M. C. Perry, recently commanding this squadron, is, by permission of the department, returning to the United States by the way of England.

The vessels of the squadron, owing to the civil war existing in China, have had frequent calls made upon them for the protection of American citizens and property, and have been of great service to our countrymen in that remote region.

Commodore Perry, with the steam-frigate Powhatan as his flag-ship, Captain W. J. McCluney; the sloop-of-war Macedonian, Captain J. Abbot; the steam-frigates Susquehanna, Commander F. Buchanan, and Mississippi, Commander S. S. Lee; the sloop-of-war Vandalia, Commander John Pope; and the store-ships Southampton, Lieutenant Commanding J. J. Boyle, and Lexington, Lieutenant Commanding J. J. Glasson, arrived at Yedo bay, Japan, on the 13th of February, for the purpose of fulfilling the plans of which he had notified them the year before, and of endeavoring to establish commercial relations between Japan and the United States. By indomitable perseverance and remarkable management, he succeeded finally in overcoming the obstinacy and prejudices of the Japanese government, and induced it to enter into

a treaty of amity and peace, by which two of its ports, Hakodade and Simoda, were opened to vessels, and shipwrecked mariners of American vessels are guarantied to have ample protection and kind treatment on whatever part of the coasts they may be cast. The above-mentioned ports were fully surveyed by our vessels, and are represented to be very convenient and commodious. Presents were also exchanged between the Japanese government and the United States.

The treaty having been concluded, it was entrusted to Commander H. A. Adams, who was directed to proceed in the *Saratoga*, Commander W. S. Walker, to San Francisco, and thence to Washington. On the arrival of the *Saratoga* at the Sandwich Islands, a more speedy conveyance offering, Commander Adams left her and reached Washington with the treaty on the 10th of July. Commodore Perry and those who accompanied him in his novel and perilous undertaking deserve well of their country. A new era seems, through their instrumentality, to be dawning upon the commerce of the world. It is difficult to calculate the wonderful results which present and future generations may experience from this promised gradual dropping off of the cruel fetters with which ignorance has so long embarrassed commerce, and this hopeful prospect of the spread of civilization and liberty and good government, so cheering to the Christian statesman.

The *Saratoga* proceeded on her way to the United States, and arrived at Boston September 1st, having been absent from the country for four years. I have expressed to Commander Walker and his officers, as also to the crew, my just appreciation of their good conduct, notwithstanding the expiration of their terms of enlistment.

I regret to state that, whilst the *Plymouth* was engaged in surveying the Bonin islands, Lieutenant John Matthews, with thirteen of the crew, when in a boat, encountered a severe typhoon, and were all lost. Lieutenant Matthews had a high reputation in the navy as an officer, and the men are represented to have been among the best of the crew.

The vessels of the expedition for the survey, and reconnoissance of Bhering Straits, the North Pacific ocean and China seas, after leaving Simon's bay, Cape of Good Hope, proceeded to Hong Kong, China; the sloop-of-war *Vincennes*, Commander C. Ringgold, and the brig *Porpoise*, Lieutenant Commanding A. B. Davis, by the way of Van Dieman's Land, through the Coral seas, passing the Caroline and Ladrones and Bashee islands, arriving at Hong Kong on the 17th of March; the steamer *John Hancock*, Lieutenant Commanding John Rodgers, the store-ship *John P. Kennedy*, Lieutenant Commanding N. Collins, and the tender *Fennimore Cooper*, Lieutenant Commanding H. K. Stevens, by the way of the Straits of Sunda and Gaspar, the Carimata and Billeton passages, and the Sooloo sea. Their arrival at Hong Kong is reported by Commander Ringgold early in June.

During the absence of Commodore Perry, with the greater part of the East India Squadron, at Japan, the civil war raging in China, and particularly in the vicinity of Canton, so alarmed American citizens holding immense property in that region, that Commander Ringgold considered it proper to suspend temporarily the special duties to which he was assigned, and render protection to his exposed countrymen and has thus failed to accomplish a large portion of the surveys that

had been planned for the present year. In addition to these embarrassments, Commodore Perry informs the department, under date of August 9, that, on his arrival at Hong Kong, he found the expedition laboring under serious disadvantages, owing to the unfortunate affliction of Commander Ringgold, which has rendered it necessary, in the opinion of the medical officers, that he should return to the United States. Commodore Perry having placed in charge of the expedition an experienced officer, Lieutenant John Rodgers, the next in rank, and the plan of operations marked out by him being considered judicious, the Department has directed him to proceed with all despatch to its execution.

The Pacific Squadron, Commodore B. Dulany, consists of the flagship *St. Lawrence*, Commander W. W. Hunter, the sloop-of-war *Portsmouth*, Commander T. A. Dornin, and *St. Mary's*, Commander T. Bailey. The frigate *Independence*, Captain J. Tattnall, bearing the broad pendant of Commodore W. Mervine, sailed from New York on the 9th of October, for the Pacific. Upon her arrival out, Commodore Mervine will take command, and Commodore Dulany will return to the United States in the *St. Lawrence*. The sloop-of-war *Decatur*, Commander I. S. Sterett, and the steamer *Massachusetts*, Lieutenant Commanding R. W. Meade, sailed from Norfolk, respectively, the 16th of June and 5th of July, to join this squadron. By last advices, they had reached and left Rio, on their way out; but the *Massachusetts*, after a day's sail, encountered and suffered seriously from a violent storm, and returned to Rio for repairs.

In addition to the above-enumerated vessels, there are on the Pacific coast the stationary store-ships *Fredonia*, Lieutenant J. D. Johnston, at Valparaiso, and *Warren*, Lieutenant D. McDougall, at the navy yard at Mare Island, California.

The *St. Lawrence* has been cruising most of the year between the ports of Payta and Callao, in Peru, and Valparaiso, in Chili. The *Portsmouth* returned from the Sandwich Islands to San Francisco on the 14th of January. The government having received sufficient intelligence to impress it with the apprehension that an unlawful expedition had left or was about leaving San Francisco, for the purpose of taking possession of territory belonging to Mexico, instructions were sent Commander Dornin to render prompt and efficient aid in assisting to arrest and suppress any such unlawful expedition as might be set on foot within the jurisdiction of the United States, and to exercise all lawful means of preventing the violation of law and infraction of treaty stipulations. To assist him in this, he was, with your approbation, authorized, if necessary, to charter a steamer for a short time, on reasonable terms. Commander Dornin considered it necessary, and for this purpose he chartered, at San Francisco, the steamer *Columbus*, belonging to the Pacific Mail Steamship Company. With this steamer and the *Portsmouth* he proceeded along the coast; and having evinced a determination to execute his orders, and unite with the civil authorities in promptly arresting and suppressing all unlawful expeditions, he unquestionably contributed largely to their early termination, and thus to the maintenance of friendly relations with a neighboring power. Some of the leaders were arrested, and many of the sick and

wounded availed themselves of the offer of Commander Dornin to return them to their homes.

After he had terminated successfully his efforts in regard to the unlawful expedition against Mexico, he received intelligence that about twenty American citizens were imprisoned in close confinement at Mazatlan. Having investigated the matter, and concluding that their confinement was improper, he interfered, and demanded their release. They were soon discharged, by order of the government of Mexico, and, at the instance of Commander Dornin, were conveyed, in the revenue cutter "W. L. Marcy," to San Francisco, at their own request. The Portsmouth did good service at Acapulco, in relieving American steamers from the embarrassment of a blockade of that port. When last heard from, she was at the Sandwich Islands, and is now probably on her way to the United States, under the order of the Department.

The St. Mary's, which left the United States on the 15th of October, 1853, joined the squadron at Valparaiso on the 20th of January. Complaints having been made of abusive conduct towards our shipmasters whose business carried them to the Chincha islands, the St. Mary's was sent there in April. Commander Bailey found in port about one hundred and sixteen sail of vessels, two-thirds of which were American. The presence of the St. Mary's had a very beneficial effect, and the masters of the large fleet of merchantmen, both English and American, expressed themselves highly gratified at the prompt and energetic action taken by Commander Bailey in regard to their complaints and grievances. Whilst there he had an opportunity to return the protection which was afforded last year by Admiral Moseby, of the English Navy, to many of our countrymen by affording assistance and protection to Captain McClenan, master of the English ship Kildaire, which assistance and protection had been refused by the Peruvian governor of the islands. The St. Mary's, after cruising on the coast south of Panama, and showing our flag at Iquique, Arica, and various other ports, was, on the 29th of August, (the last advices from her,) at the Sandwich Islands, whither she had been sent by Commodore Dulany, under instructions from the Department.

The steamer Michigan, Commander J. S. Nicholas, is still in commission on our northern lakes, and, during the last season, engaged in her usual cruising.

The steam-frigate San Jacinto, Captain Stribling, having received on board the new machinery recently constructed for her, put to sea on the 9th of August for a six months' cruise, with a view especially to testing the capacity of the machinery, in pursuance of the terms of the contract. When last heard from she was at Southampton, and, having undergone very slight repairs, was about proceeding on her cruise.

In addition to the employment of the vessels, officers, and men afloat, as thus recited, many of the officers and men of the Navy are assigned to duty on the Coast Survey.

INCREASE OF THE NAVY.

Although Congress, at its last session, promptly responded to the recommendation for the construction of six new steam-frigates, and for

completing and launching the frigates Santee and Sabine, I am very far from entertaining the opinion that the enlargement of the Navy should stop here. The protection of our wide-spread commerce, the guarding of our extended coast, the preservation of our rank as a nation, demand that we should not be entirely stationary, and with inactive indifference behold the progress of other powers in naval strength. And it is hardly unwise to glance at the various national Navy Registers and compare the size of our Navy, *not merely with that of the mighty nations with whom we claim equal rank, but with that of other nations whom we esteem to be far, far behind us in the race of national greatness. Even with the addition of the unfinished six steam frigates, our naval force will not exceed fifty vessels in condition for service.* Weakness invites aggression, and never inspires respect; while acknowledged strength and visible preparation command consideration, and are the true safeguards of peace. And, although our mission is peace, and no warlike messengers of propagandism are to be sent forth to force republican liberty upon reluctant victims of misgovernment, it may be well to remember that, in addition to the ordinary uncertainty which ever hangs around questions of peace and war in the distant future, we have to encounter illy-disguised jealousy of our peculiar institutions from those who cling with tenacity to the old system of government. Hear the language of one of your predecessors in a message to Congress more than a quarter of a century ago: "Unprovoked injuries are often inflicted, and even the peculiar felicity of our situation might with some be a cause for excitement and aggression. The history of the late wars in Europe furnishes a complete demonstration that no system of conduct, however correct in principle, can protect neutral powers from injury from any party; that a defenceless position and a distinguished love of peace are the surest invitations to war; and that there is no way to avoid it other than by being always prepared and willing, for a just cause, to meet it. If there be a people on earth whose more especial duty it is to be at all times prepared to defend the rights with which they are blessed, and to surpass all others in sustaining the necessary burdens and in submitting to sacrifices to make such preparations, it is undoubtedly the people of these States." The well-armed and well-manned ships of our Navy may be truly regarded as so many ocean sentinels stationed along the main to challenge at once any who might dare to seek an assault upon institutions sacred to us, but inconvenient to them. 'Tis true, we are at peace with the world; and so but a few months ago were the nations of Europe, and, under the benign influence of Christianity and civilization, seemed hopeful of a quiet future, with no rivalry but in arts, science, and national development. The scene is suddenly changed. War, with all its bloody calamities, is convulsing those mighty nations, and no prophetic statesman can foretell its extent or its termination. But who are interested in the Navy? It is not merely the citizen whose lot is cast along the coast, the wealthy merchant in our cities, the speculator in floating merchandise, but merchants, mechanics, planters, our countrymen all along the coast, up our rivers, beyond the mountains. The agricultural interest is as much benefited and protected by the Navy as any other. Every planter in every section is not more truly protected by the enclosure around his

farm, than by our "wooden walls" which float around our coast. The States which border on the Mississippi transport on its bosom their cotton, and grain, and sugar, and vast varieties of products, which are borne into the Gulf of Mexico. With no Navy sufficient to protect it in that region, who can appreciate the inconvenience and embarrassment which our planting interest will experience in war? But the great cost is often suggested. That should always be vigilantly watched by the prudent statesman; who should, however, remember that every dollar is expended among our own people in the purchase of material and payment of laborers; and that it brings into exercise the mechanical skill of our country, promotes, and thereby perpetuates, a class in our midst essential to our national independence. He who visits our Navy Yards, and lingers a moment in beholding the giant frames of the noble ships now being constructed by the genius, the labor, and with the material of our own country, will find that the money expended not merely results in presenting a floating battery to protect our property and our flag, but gladdens the hearts of hundreds of cheerful artisans, who pay it back into the treasury with fourfold interest. It is not wasted capital; it is not like the millions annually sent abroad to foreign capitalists to pay the debts contracted for schemes of extravagance, leaving embarrassment in its trail. *I do not propose to increase the number of officers,* nor materially to enlarge the squadrons, and thereby increase largely our current expenses, nor to have a Navy of the immense size and expense of some of the powers of Europe. But *I do propose so to increase the materiel of our Navy as at least to approximate to a state of readiness for emergencies* which wise statesmen strive to avoid, but wiser statesmen prepare to meet. It will be my pleasure to co-operate with the legislative department of government in practically carrying out these views.

For a detailed statement of the actual condition of our naval force, I beg to refer you to the full report of the Chief of the Bureau of Construction, Equipment, and Repair.

In the exercise of the discretion imposed upon me by the act of Congress directing the construction of six steam-frigates, I decided, after mature consideration and inquiry, to have them built in the navy yards, under the more immediate supervision of the Department. The government had a fair supply of material, particularly of live oak, well seasoned; had erected ship-houses, in which the vessels while being built could be protected from exposure, and the mechanics employed could be sheltered comfortably, and able to prosecute the work in the most inclement weather.

On examination I discovered that there was neither material, building-slip, nor ship-house at Pensacola, and that the Franklin was being rebuilt, and the Santee altered and completed, at Kittery. I therefore ordered that immediate preparation be made for constructing the new frigates at the Navy Yards in Boston, Brooklyn, Philadelphia, Washington and Norfolk. There is no difficulty in securing the services of as many skilful mechanics and laborers as are desired. The public officers at the several yards have all manifested a deep interest in despatching the work with success. Much progress has been made, and I have no doubt six first-class steamers, equal to the expectation of

the country, will be completed as speedily as men and means can accomplish the work. Not having facilities for manufacturing the steam machinery necessary, except at the Washington Navy Yard, I had no alternative but to make contracts with private establishments for five of the frigates. These contracts have been made with builders of established reputation, and the contractors are busily engaged in fulfilling them. The plan adopted was to invite proposals, so as to call forth the best skill of the country, and, before adopting them, submit them for my guidance to a board of engineers. Bonds with approved sureties have been taken for the faithful execution of the work, and two-fifths of the contract price is to be retained until the machinery has worked successfully and satisfactorily at sea for six months. Before adopting any of the plans proposed, I thought proper, in consideration of the greater experience of England and France in the application of steam machinery to mne-of-war, to order the Engineer-in-Chief, Martin, to visit Europe with a view to availing himself of any improvements which may have been made. The observations made during his visit, and the interesting reports of Lieutenant Walker, who had been similarly engaged, will prove useful to the service. The Santee and Sabine frigates will be completed and ready for being launched in a few weeks. The Franklin is progressing rapidly, and it is confidently expected that the six steam-frigates will be launched certainly by the ensuing fall, if not earlier.

REORGANIZATION OF THE NAVY.

In my last annual report I ventured to express the opinion "that the present organization of the Navy is not only essentially defective and unwise, but is, in its practical operation, working palpable and serious mischief to the efficiency and character of that branch of the public service," and "*that a retired list on reduced pay for the faithful who have become infirm; the discharge of the inefficient who have no claim on the bounty of their government for services rendered; promotion regulated by capacity, merit, and not by mere seniority of commission; and pay to some extent controlled by sea-service, are reforms not only demanded by the condition of the service, by considerations of justice, but absolutely necessary to the preservation of efficiency and usefulness.*" Efforts were made, during the last session, to accomplish many of the desired reforms. No final action was taken. Subsequent reflection, and experience of nearly two years' connection with the Navy, an extended acquaintance with the officers, and an attentive observation of the practical working of the present system, have not only confirmed me in the correctness of those views, but constrain me, at the hazard of the charge of pertinacity, to renew most earnestly my previous recommendations, and to urge their consideration and adoption with deep solicitude. So far as I have the authority at present, these views shall guide my action. I cannot recommend for promotion to higher rank and larger pay, officers who do not merit it, from incapacity, either moral or physical. I do not appreciate the justice or policy of promoting to a higher grade an officer who cannot perform its duties, unless in rare exceptional cases, as a complimentary reward for services rendered. It is neither more nor

less than elevating the incompetent, and then ordering the unpromoted competent to do *their* work! Is there an alarm of fastening upon the government an odious pension system? None can cherish a greater repugnance to that than myself; but none can be more fully convinced that it can be so well surrounded with safeguards, restrictions and limitations, as to retain its virtues and reject its faults.

Is the particular plan of having the aid of a board of officers in ascertaining the incompetent and unworthy objected to? I am not wedded to that or any other scheme, provided the main object can be attained. I should be content to have the Secretary from time to time officially report to the President such names as he wishes should be retired or dropped; that the President should transmit, if he thinks proper, their names to the Senate, with a recommendation suited to each case. Thus the President and the Senate, the appointing power, will be the removing power, and the apprehension of Star Chamber persecution and being victimized by secret inquisition, now felt by some worthy officers, would be quieted. But I forbear to fatigue with details. The magic touch of reform is needed, and if skilfully applied will impart to the now drooping body of our Navy a robust health and a new life. I believe that sound policy, stern justice, *demand* it; that *true* economy is *not opposed* to it. I shall be happy to co-operate with Congress in effecting it.

I have no hesitation in saying that there are many officers now in the Navy whose names do not adorn the Register. There are those incapable of performing duty from age or affliction. There are also many good officers resigning from time to time, because the path of promotion is "blocked up" by the incompetent, and the future seems to them so unpromising. But it is my pleasure, as well as my duty, to say that the corps is still full of chivalrous and gallant officers, who are not only ready for the post of danger, but would sustain the proud reputation of our Navy which has won so many laurels for our country, and by its brilliant victories cheered the heart of many a desponding patriot.

I will not, however, enlarge this report by repeating the views or reciting the various amendments and modifications of existing laws suggested in my last annual report, but content myself with renewing the recommendation.

DISCIPLINE OF SEAMEN AND THE ENLISTMENT OF BOYS AS APPRENTICES.

While the just and liberal action of Congress during the last session, authorizing an increase of pay of seamen corresponding to the compensation in the merchant service, has done much to encourage enlistments, and was received with grateful joy by many a veteran tar, much remains yet to be accomplished to give proper shape, vigor, character and success to the system of discipline in this important, indeed vital part of the public service. Language cannot describe, the mind can scarcely grasp, how much of happiness and wretchedness hang around the fidelity, the discipline of the neglected sailor. Property, life, victory, defeat, national honor and renown, have much to do with the character and cheerful obedience and home-love of seamen.

I am very far from recommending the restoration of punishment

by flogging. In my opinion the *experience* of the Navy, at least, justifies its abrogation. The sloop-of-war *Saratoga*, Commander Walker, constituted a part of the squadron to Japan, left the United States in September, 1850, and returned in the same month of the present year, after cruising for four years beneath tropical suns and amid uncongenial people, thousands of miles from home. The term of the crew's enlistment expired while they were far in the east. They were informed while abroad that punishment by flogging was abolished. I allude to this case especially, as I think the test was a severe one. Yet, on their arrival at Boston the most flattering reports reach me of the good conduct and discipline of the crew. I deemed it proper also to address an inquiry on the subject to Commander Walker. He responds thus: "In regard to the first question, whether it is desirable to restore corporal punishment, I reply, that from experience, as well as conviction, I do not believe it would be desirable or for the interest of the service." And yet he and every officer concur in the necessity of prescribing and legalizing some substitute, accompanied, however, with a plan of *reward* as well as *punishment*; punishment prompt, *sure*, in order to restrain the offender and deter the inconsiderate; *reward* equally sure and generous, to encourage fidelity and promote respectability. It is not the *severity* but the *certainty* and *promptness* of punishment which promotes discipline. The sailor who now commits an offence aboard ship remote from home and the flag-ship, knows that he cannot be *tried* possibly for months, until the vessel arrives in port or falls in with the Commodore of the squadron.

I consider it all-important that the commander of any vessel should be authorized by law to order a summary court-martial for the trial of the petty officers and those below them; that they should have the power to punish by dishonorable discharge in *any* port; by confinement on reduced rations and without pay, with extra labor and denial of shore privilege. When the seaman knows that these punishments can be promptly inflicted by the officers in command of the ship, he has much to deter him from disobedience.

But, in order successfully to invite diligent and enterprising men, they must know that their integrity will be commended, and their faithfulness remembered. An honorable discharge, leave-of-absence pay, shore-privilege, and the confidence of the officers, will animate and encourage them. I hope I may be excused for repeating that "I deem it indispensable that some plan be adopted by which our seamen shall become more *distinctly and permanently a part of the Navy, and attached to the service*. Whenever a ship-of-war now returns from her three years' cruise, the officers are detached, and granted a leave of absence for three months, with leave-of-absence pay, but the seamen are peremptorily *discharged—disconnected from the service*. If they have been meritorious, I propose that on their return they be granted an 'honorable discharge,' (to be considered a leave of absence on pay,) if within a certain time they choose to re-enlist in the service. This would possess a two-fold virtue—of fair and generous treatment at parting, an invitation to continue a member of a family caring for them during a temporary absence."

I wish to raise the standard of character among seamen. It is my

design, also, immediately to adopt, in a modified form, the "Apprentice System," and encourage the enlistment of American boys from fourteen until they are twenty-one years of age. The object in view will be to train them up at first on our large Receiving-Ships, and transfer a certain number to each vessel starting on a cruise, to make them practical seamen, to teach them in their youth to become familiar with all the duties of a sailor, the requirements of the service, the sacredness of obedience to orders; to watch over their proper moral and mental training, and thus incorporate into the service gradually, but surely, a body of seamen to be proud of in times of peace, to be relied upon in times of danger. I am also very clearly of opinion that the number of men in the service should be increased at least twenty-five hundred.

MARINE CORPS.

The Marine Corps constitutes a most interesting, important, and useful portion of the naval force. Their service is equally effective on land and on sea. They are an armed and disciplined police on ship-board. Well trained and drilled before being detailed for duty at sea, aware of the fact that they are set apart to sustain the officers in command in the preservation of order and the suppression of mutiny, the first symptom of insubordination finds them ready, with strong hand and burnished arms, at the drum-tap, to put down disorder or disobedience.

Recent occurrences at sea, painfully fresh in the recollection of all, impress the mind most vividly of the practical value of such a body of men on ship-board in moments of peril and alarm, when mere panic and disorder are so often unnecessarily fruitful of desolation and death. But on land also their services have ever been found efficient, either in the Navy Yards or on shore far from their country. This corps accompany our men-of-war in all their cruises in times of peace and war, and have signalized their valor in many a field.

Their number now is entirely too small, and I earnestly recommend an increase, by which more time would be allowed for their proper discipline and drilling before they are ordered to sea, and their efficiency rendered still more reliable. I am satisfied also that the corps could be improved and elevated in character, by adopting some system of appointing officers of military education and training.

YARDS AND DOCKS.

We have now eight Navy Yards, inclusive of the one now in rapid progress of construction at Mare Island, California. To keep these yards in proper condition for useful service, and to erect on them the necessary buildings and fixtures, occasion the expenditure, annually, of large sums of money, notwithstanding the diligence and vigilance of the Chief of that Bureau. Large appropriations will be from time to time required for the yard in California, which, it is presumed, will be a complete establishment, as it is the only one on the Pacific. The prices of labor and material and the necessaries of life in California are still far higher than on the Atlantic coast.

My immediate predecessor, (Hon. John P. Kennedy,) in his last annual report, recommended the construction of a basin and railway, in

connection with the floating sectional dock, in California, thus: "No appropriation was made for the basin and railway, without which the dock cannot be safely or usefully employed. I submit it to the decision of Congress whether these structures should not be made without delay."

Congress subsequently, in the naval appropriation bill, approved March 3, 1853, adopted the following section:

"And the Secretary of the Navy is hereby directed to complete and carry into execution the verbal contract for a basin and railway in California, in connection with the floating dock, as made by the late Secretary, in pursuance of authority for that purpose, given by the act of September the twenty-eighth, one thousand eight hundred and fifty, entitled 'An act making appropriations for the naval service for the year ending the thirtieth of June, one thousand eight hundred and fifty-one,' and as stated in the letter of the said late Secretary addressed to the honorable Howell Cobb, Speaker of the House of Representatives, and dated the twenty-first day of January, one thousand eight hundred and fifty-one, towards the execution of which one hundred and fifty thousand dollars is hereby appropriated: *Provided*, That, in the judgment of the Secretary, such basin and railway are necessary, and will be useful to the public service."

In my last annual report, I informed you that I had given the subject much investigation; that my predilections were decidedly in favor of stone docks; that Congress, however, had decided that a sectional floating dock is preferable in California; that I entertained the opinion, that a basin is necessary to render it safe when a large ship is docked for repairs, which may expose it to months of dangerous weather, and that I should proceed to execute the contract unless Congress should otherwise direct.

The difficulties about the title to Mare Island were not removed until July last. Previous to making the contract, the opinion of the Attorney General was asked as to the proper construction of the law, and he advised that it was mandatory in its terms as to the amount to be paid, and the execution of the contract, if the basin and railway were decided to be necessary and useful to the public service. He uses the following language: "Thus far the terms of the act are, in my opinion, positively mandatory, and it only remains to discuss the proviso to the clause, which is: '*Provided*, That, in the judgment of the Secretary, such basin and railway are necessary, and will be useful to the public service.' * * In all machines, great or small, parts are found which are *necessary* to the action, or to the safety, or to the permanent value, of the machine. That is a *mechanical* question, to be settled by the Secretary, by the aid of experts and of engineers." I deemed it my duty to procure the opinion and advice of experts, engineers, and practical men, some of whose opinions, heretofore verbally given, I have caused to be reduced to writing. I refer to Mr. Lenthall, naval constructor and Chief of the Bureau of Construction, Equipment, and Repair, and the civil engineer, Mr. Sanger, attached to the Bureau of Yards and Docks. I am not acquainted with any two gentlemen more distinguished in their respective professions, and more entitled to the confidence and respect of the Department. It is proper that I should state, also, that these two gentlemen have always been adverse to the

construction of these floating docks ; but on the question of the necessity and usefulness to the public service of the *basin* and *railway* in connection with the sectional dock, they have expressed themselves with clearness and force, and presented arguments and facts which, in my judgment, were convincing.

Mr. Lenthall, in answer to my inquiry, expresses himself thus : “ In compliance with your request that I should communicate my opinion in writing, which on several occasions has been verbally given, as to whether the basin and railway are desirable or necessary, in connection with the sectional or floating dock, I would respectfully state that, without such an appendage, I would consider this floating dock, in a great measure, unsuitable for naval purposes. As a ship-builder, I could not recommend the execution of very extensive repairs, which are often necessary to ships of war, upon the uncertain foundation such a dock would present, and therefore I consider the basin necessary for its full efficiency. The danger to which such a floating structure would be exposed with a heavy ship upon it, probably for months, in my opinion renders this basin very desirable.”

The following extracts are taken from the opinion of Mr. Sanger :

“ In answer to the first inquiry, I have to say that, in my opinion, the only feature in these works which commends them to favorable consideration as suitable structures for naval purposes in making extensive repairs upon heavy vessels of war, is the connection of the dock, basin, and railway, so that when a vessel is put upon the dock for extensive repairs, and to remain a length of time, the whole structure can be floated into the basin and firmly grounded ; the ship may then be taken on shore by the railway, or remain on the dock, and would, in either case, rest as safely as if on a building-slip, and would be shored and secured in the same manner. I am therefore of opinion that, Congress having ordered the construction of a sectional floating dock in California, the addition of a basin and railway to operate in connection with that dock at Mare Island becomes both necessary and useful. * * *

“ These floating docks often answer a good purpose for making slight repairs, such as repairing copper, cleaning bottoms, or renewing copper, where the work to be performed requires but little time, and the ship is not weakened, but always in such condition that she could be let into the water at any moment without damages should necessity require it ; but for extensive repairs, where the planking is removed and the upper works are cut to pieces, as is frequently the case, I should consider their use as very hazardous and unsafe, and I do not think they are ever used, or should be used, for such extensive repairs, unless in connection with a basin. * * *

“ I do not think that piers could be constructed in such manner as to render a heavy ship-of-war upon the dock safe, when reduced to the condition she must necessarily be placed in to receive extensive and thorough repairs occupying months, nor do I believe that any prudent naval constructor would risk a national ship in such condition for a length of time upon any floating structure.”

I deemed it also my duty to visit the navy yard at Philadelphia and witness personally the operation of that dock, similar to the one in California. Notwithstanding the inconvenience and expense of dredging

necessary at Philadelphia, the national vessels entering that port have been regularly repaired on the dock and in the basin with entire success since its completion. During my administration of this Department this dock and basin have been successfully used for repairing the steamers San Jacinto and Fulton, and the sloops-of-war St. Marys, Cyane, and Jamestown. The San Jacinto was also hauled ashore on the railway, where she underwent several months repairing, leaving the dock in the mean time ready for any ship that might arrive. I am not to be understood as advocating or recommending government to adopt this system in preference to stone docks. But while I am decidedly of opinion that this plan of dock is *inferior* to the *stone dock*, in point of durability, safety, and because of the expense of repairing, and its requirement of a depth of water involving often the cost of dredging, I am also clearly of opinion that for naval purposes the *basin* and *railway* impart to it its chief value, and that without the former it would be unsafe.

Congress having *previously* chosen to construct the sectional dock on the coast of California, the only one on the Pacific coast; able and scientific officers having expressed the opinion and assigned reasons in favor of the necessity and usefulness of the basin and railway in connection with this dock, and being aware that the growth of our commerce, and the enlargement of our squadron in the Pacific, demanded the service of the dock, I deemed it my duty "to complete and carry into execution the contract" as described in the law, for the construction of the basin and railway, to render it secure and useful for the "public service." For slight repairs these docks are used without the basin, and by authority of Congress the contractors have built temporary piers, and are using this dock in California for such purposes. But I could not consent, (except from necessity), to hazarding a national vessel on a floating structure like this for extensive repairs, with her planks off, in a weakened condition, to be exposed months to uncertain weather. The loss of one ship would equal the cost of the basin and railway, great as it is, and blame might then well attach to the Secretary who refused to protect it with a basin and railway, although Congress authorized him, and experts advised him of the hazard.

I am thus particular on this subject because of the amount involved. The dock is completed, and will soon be thoroughly tested. The contractors are actively engaged in building the basin and railway.

I informed you in my last report of the difficulties which had occurred in regard to the dock, basin, and railway at Pensacola. This is a balance, not a sectional dock. When I came into the Department I found that the contractors had already been paid up for these works the entire amount agreed upon, as well as the reserved ten per cent., and that a bond in the sum of two hundred thousand dollars had been taken from them for the protection of the government. The records indicate that this was done upon the certificates filed of the completion of the work, and the opinion of the Attorney General of the obligation of the government, and *not* the contractors, to procure by proper dredging the depth of water necessary for the operation of the on dock. A board had also been appointed, and the frigate Columbia selected to est the works, in ordre that the Department might decide whether or not the stipulations en-

tered into had been fulfilled. The report of the board was unfavorable, and I declined accepting the works. The contractors insisted that injustice had been done them in the mode of making the test, declined attempting to float the Columbia into the basin with her armament on board, protested in writing against having the works rejected upon this test, and asked that another might be applied after they should make certain proposed improvements and repairs. It has not been convenient for the Department to spare any national vessel for a second test, and I entertained the opinion that after the government had been to the expense and inconvenience of furnishing one vessel, it became incumbent upon the contractors to demonstrate by a fair and reasonable test, at their own expense, that the works were in truth worthy of acceptance, and that they had executed what they had undertaken.

Mr. Hartt, junior, Naval Constructor, who, until recently, was stationed at Pensacola, and was one of the committee reporting adversely, informed me in an official communication dated March 7, 1854, "that from the external appearance of these repairs, &c., I [he] am of the opinion that the dock and basin is in a safe and better condition to perform the test than it was in May last; the basin required nothing to be done to it, everything being in good order;" and after enumerating the alterations and repairs, says: "I consider the repairs and alterations enumerated above, of great advantage, as regards the safety and efficiency of the dock." Still I declined receiving the works. The contractors proposed several different vessels with which to make the test, but I declined, because I did not consider either of them of sufficient weight and displacement to enable me to judge of the capacity of the dock. Having then informed them that I should deem it my duty to turn the case over to the courts of law, they finally proposed another test, which I referred to the consideration of a board consisting of Commodores Morris and McCauley, Constructor Lenthall and Civil Engineer Sanger. That board gave the whole case a thorough investigation, and after consideration advised the Department that it was proposed to take ballast in the large merchant ship "The Monarch of the Seas," until her weight or displacement was 2,500 tons, and then place ballast on the dock until a weight of 3,300 tons was made up, that being the estimated weight of the "Niagara," (the largest of the new frigates,) with only her steam machinery and its appurtenances on board, thus making a weight of 315 tons more than was used in the former test. The vessel is to be placed on the dock, floated into the basin, and hauled ashore on the railway, and returned again.

The board considering the details of the proposed test and arrangements, recommend it as one that may be sufficient to enable the Department to determine whether the works are worthy of acceptance or not. The vessel is now on her way to Pensacola, and the second test will be made immediately, when the Department will be the better able to judge of the character of these structures. The interest of the government shall be protected as fully as they can be, and every effort shall be made to ascertain the true facts as to the character and capability of the dock, basin and railway.

In the third section of the naval appropriation act, passed at the last

session of Congress, it was provided "That all the grounds and appurtenances thereunto belonging, known as the Memphis Navy-Yard, in Shelby county, Tennessee, be and the same is hereby ceded to the Mayor and Aldermen of the city of Memphis for the use and benefit of said city, and that the Secretary of the Navy order the commandant of said navy-yard at Memphis to surrender to the Mayor of Memphis said property." In pursuance of that provision of law, I addressed a communication to the Mayor of the city of Memphis, to ascertain the views of the Mayor and Aldermen as to the acceptance of the donation. On receiving from them a certified copy of their proceedings, expressing their readiness to receive the property, an order was issued to the commandant of the Navy Yard at Memphis to surrender the grounds and appurtenances to the Mayor. The order was obeyed, and in due form the surrender was made, and the property is now in the possession and under the control of the corporate authorities of Memphis. It is perhaps proper that I should state that there were sundry articles of property belonging to the government used in connection with that yard, the sale of which the Department has for the present suspended at the request of the Mayor and Aldermen, on their communicating to the Department that they had resolved to appeal to Congress to re-establish the Navy-Yard.

The ground and appurtenances, however, have, in pursuance of the law, been unconditionally surrendered, and the yard abandoned by the government.

MISCELLANEOUS.

The Naval Academy has during the past year continued to present to the country practical evidence of the wisdom and foresight of its projector. Under the vigilant superintendence of Commander Goldsborough and his worthy assistants, the strictest discipline has been enforced, to the marked benefit of this institution.

The plan of education is now thorough and the training of the youth admirable. The cruise in the Practice Ship is of immeasurable advantage in imparting at an early age practical knowledge of seamanship. During the last summer the Preble with 31 young midshipmen, visited Portsmouth and Plymouth in England, and Brest and Cherbourg in France, thereby affording them an opportunity of examining the naval establishments at those points. The contract has been made for the erection of a machine-shop at Annapolis under the act of Congress authorizing it, and I shall avail myself of the first opportunity when the service will permit, to substitute a steamer for the sloop now used as a practice ship. The number of students now at the Academy is one hundred and sixty. Attention is called to the report of the Chief of the Bureau of Ordnance and Hydrography, and the annual report of the Board of Examiners, as also that of the commander of the practice ship.

The Naval Observatory is still entitled to generous support, and eminently demonstrates the utility of its original establishment.

The achievements on sea quietly and gradually effected by Lieutenant Maury, although not attracting the admiration of the multitude, nor dazzling the beholder with sudden flashes of triumph, have reflected

honor upon himself and his country; have brought remote nations in comparative proximity to each other; have promoted commerce, by pointing out to the mariner new paths on the great deep, where favorable winds and currents lend friendly aid. His "Wind and Current Charts," and "Sailing Directions," are saving millions of money, by shortening the voyages of merchant vessels freighted with treasures.

I am officially informed "that it was stated in a paper read before the British Association last year, that it was estimated in India that a set of wind and current charts for the Indian ocean, like those that have been constructed at this office for the Atlantic ocean, would produce an annual saving to British commerce in those seas alone of not less than \$1,000,000, (£250,000,) and for British commerce in all seas of \$10,000,000 a year. This estimate was based on the condition of shortening the voyage only one-tenth, (whereas the average length of the passage to all places beyond the Equator has been shortened much more;) and the estimate was again repeated at the last meeting of the Association in Liverpool." It has also been estimated that the value of these charts to the commerce and navigation of the United States is equivalent in the saving of time to several millions a year.

I trust that these considerations may prevent all objection to the comparatively small expense annually called for to sustain this establishment.

The Department is advised that Mr. Robert L. Stevens, of New York, is now rapidly progressing in the construction of the iron war steamer, to be shot and shell proof, for harbor defence, in accordance with his contract, under the acts of Congress of 1842 and 1852. In his communication of the 28th of October, he informs me that "the boilers will be ready to put on board in about three weeks, and the shafts, beams, cranks, and links, are nearly finished and turned," and that he has nearly five hundred men engaged on the work. It is very desirable that this vessel should be completed, large sums having already been expended by Congress upon it. If the undertaking is successful, and the contractor accomplishes what he promises, the benefits derivable from it for harbor defence are incalculable.

Great difficulty having been experienced in procuring American water-rotted hemp, special agents have been appointed in the districts of country in which it was most likely to be attained. The instructions for its inspection and receipt offer every inducement to encourage its preparation. The supply of hemp has been principally drawn from Russia, and the present state of affairs in Europe demonstrates the importance of our not being dependent on other countries for our supplies of this necessary article.

The estimates for the support of the Navy and Marine

Corps for the year ending June 30, 1856, and for all

objects coming under the control of this Department,

are, in the aggregate \$16,241,931 53

From which deduct special objects, including trans-

portation of the mail in steamships..... 7,324,634 22

Leaves for the support of the Navy and Marine Corps 8,917,297 31

The estimate for the present fiscal year for the support of the Navy and Marine Corps was \$8,351,171 19

The total amount drawn from the treasury during the fiscal year ending June 30, 1854, as exhibited by the statement of appropriations for the naval service prepared by the Second Comptroller of the Treasury, was..... \$11,750,236 32
From which deduct repayments..... 948,391 04

Gives as the total expenditure for all objects under the control of the Navy Department..... 10,801,845 28
But of this amount there was expended for special objects the sum of..... 3,910,012 29

Leaving as the legitimate expenditures for the support of the Navy and Marine Corps for the fiscal year ending June 30, 1854..... 6,891,832 99

There are, however, outstanding claims to be paid out of the appropriation for the fiscal year 1853-'54.

Your attention is invited to the reports and estimates of the Chiefs of the several Bureaus connected with this Department. I perform but an act of justice in testifying to the fidelity and attention to business of all these officers, and in suggesting that the compensation to the heads of the Bureau of Construction, Equipment, and Repair, and Medicine and Surgery should be the same as that now allowed to the others.

You will perceive, from reference to the report of the Chief of the Bureau of Ordnance and Hydrography, the importance of the action of Congress in making necessary appropriations for ordnance, which will be much larger than usual, in order to enable the Department to supply the six new steam-frigates with armament which it is designed shall be of different and heavier calibre than heretofore used.

In pursuance of the suggestions of the Chief of the Bureau of Medicine and Surgery, the Naval Laboratory in connection with the Hospital at Brooklyn was reorganized in the fall of 1853, and placed on a basis to secure its success and enlarge its benefits to the service. Since January last the entire supply of medicines for the Navy has been prepared at that laboratory, thereby giving assurance that a reliable article is supplied, and that the service will not suffer from the imposition of spurious and deleterious drugs. As a matter of economy, also, the advantages will not be inconsiderable.

The letters of Commander Charles H. Davis, touching the Nautical Almanac, and of Professor Alexander, in regard to the character of alimentary substances, accompany this report, and will explain the progress made in their departments.

I have the honor to be, with great respect, your obedient servant,
J. C. DOBBIN.

To the PRESIDENT of the United States.

List of papers accompanying the report of the Secretary of the Navy, December 4, 1854.

- A.—List of deaths, resignations, and dismissions, in the navy, since the last report.
- B.—Report of annual board of examiners, in relation to organization, condition, &c., of the Naval Academy.
- C.—Report, by the commandant of midshipmen, of the late cruise of the practice-ship.
- D.—Report of Commander Charles H. Davis, superintendent of American Nautical Almanac, in relation to its progress.
- E.—Report of Lieutenant J. G. Strain, in relation to a reconnaissance of the Isthmus of Darien.
- F.—Professor Alexander's report as to investigations and experiments upon the character of alimentary substances.
- No. 1.—Detailed estimates of the office of the Secretary of the Navy, and detailed estimates of the superintendent of the Nautical Almanac.
- No. 2.—Report and detailed estimates of the chief of the Bureau of Ordnance and Hydrography, including Hydrographical Office and Naval Observatory and Naval Academy.
- No. 3.—Report and detailed estimates of the chief of the Bureau of Yards and Docks.
- No. 4.—Report and detailed estimates of the chief of the Bureau of Construction, Equipment, and Repair.
- No. 5.—Report and detailed estimates of the chief of the Bureau of Provisions and Clothing.
- No. 6.—Report and detailed estimates of the chief of the Bureau of Medicine and Surgery.
- No. 7.—Report of the commandant of the marine corps, and detailed estimates from the paymaster and quartermaster of the corps.
- No. 8.—General estimate of office of the Secretary of the Navy and the several bureaus of the department.
- No. 9.—General estimate for southwest executive building.
- No. 10.—Summary statement of the estimates for the navy.
- No. 11.—General estimate for the support of the navy.
- No. 12.—General estimate for the support of the marine corps.
- No. 13.—General estimate for special objects under Navy Department.
- No. 14.—Statement of the appropriations for the Navy Department, viz: balances of appropriations on the 1st of July, 1853; appropriations for the fiscal year 1853-'54; repayments and transfers in same time; the amounts applicable to the service of the year 1853-'54; the amounts drawn by requisitions from the treasury in the same period; and the balances on the 30th of June, 1854, with such sums specially designated as have been carried to the surplus fund.
- No. 15.—Abstract of expenditures under the head of contingent expenses, as settled and allowed at the office of the Fourth Auditor of the Treasury, from July 1, 1853, to June 30, 1854, inclusive.

A.

List of deaths in the navy, as ascertained at the department since December 1, 1853.

Name and rank.	Date.	Place.
<i>Captains.</i>		
Thomas W. Wyman	Feb. 24, 1854	Florence, Italy.
John Downes	Aug. 11, 1854	Charlestown, Mass.
<i>Commanders.</i>		
James B. Cooper	Feb. 5, 1854	Haddonfield, N. J.
Joseph Moorehead	June 11, 1854	Zanesville, Ohio.
Richard S. Pinckney	July 9, 1854	Charleston, S. C.
<i>Lieutenants.</i>		
Joseph H. Adams	Oct. 4, 1853	Macao, East Indies.
John A. Davis	Jan. 14, 1854	Washington, D. C.
John Matthews	Oct. 25, 1853	Drowned off Bonin islands, E. I
Simon F. Blunt	April 27, 1854	Baltimore.
Henry T. Wingate	May 4, 1854	Lexington, Mass.
John B. Randolph	July 20, 1854	Washington, D. C.
Alonzo B. Davis	Sept. 19, 1854	Wilmington, Del.
Samuel E. Munn	Nov. 23, 1854	Baltimore, Md.
<i>Surgeons.</i>		
A. G. Gambrill	Feb. 12, 1854	Hong Kong, China.
William L. Vanhorn	April 3, 1854	Memphis, Tenn.
Bailey Washington	Aug. 4, 1854	Washington, D. C.
William Turk	Nov. 20, 1854	Newark, N. J.
<i>Passed Assistant Surgeon.</i>		
Robert E. Wall	Dec. 15, 1853	Dinwiddie county, Va
<i>Passed Midshipmen.</i>		
Charles C. Hunter	May —, 1853	California.
James Armstrong	Sept. 18, 1854	Norfolk, Va.
<i>Midshipmen.</i>		
E. F. Coddington	Nov. 8, 1853	Malaga, Spain.
H. J. Weisman, (acting)	Nov. 17, 1854	Annapolis, Md.
<i>Boatswains.</i>		
William Whitehead	April 9, 1854	Portsmouth, Va.
Felix Hewlett	Aug. 1, 1854	At sea.
<i>Gunners.</i>		
Samuel Allen	Jan. 22, 1854	Charlestown, Mass.
John Blight	Sept. 15, 1854	New York.

A—Continued.

Name and rank.	Date.	Place.
<i>2d Assistant Engineers.</i>		
Jackson R. Hatcher.....	Dec. 23, 1853	Norfolk, Va.
Eli Crosby	Jan. 24, 1854	Napa Roads, East Indies.
Samuel H. Houston	June 16, 1854	Naval Hospital, New York.
<i>Naval Storekeepers.</i>		
Robert Joyner.....	April 10, 1854	Navy Yard, Pensacola.
Hugh Jameson.....	April 27, 1854	Boston.

List of resignations in the navy since December 1, 1853.

Name and rank.	Date of acceptance.
<i>Lieutenants.</i>	
Edward Higgins	February 16, 1854.
John Contee	February 19, 1854.
J. Fenwick Stenson	February 20, 1854.
Charles H. Baldwin.....	February 28, 1854.
Robert W. Shufeldt	June 20, 1854.
C. St. George Noland.....	June 29, 1854.
Joseph C. Walsh.....	September 18, 1854.
James D. Bulloch.....	October 5, 1854.
<i>Surgeons.</i>	
Charles F. Guillou	September 16, 1854.
George Terrill	September 21, 1854.
<i>Passed Assistant Surgeon.</i>	
James B. Gould.....	March 6, 1854.
<i>Assistant Surgeons.</i>	
A. A. Franklin Hill.....	April 6, 1854.
Richard B. Tunstall.....	October 31, 1854.
<i>Purser.</i>	
Joseph Bryan	May 31, 1854.
<i>Passed Midshipmen.</i>	
Robert Clay Rogers.....	January 31, 1854.
Henry C. Hunter.....	April 27, 1854.
A. F. Monroe.....	July 14, 1854.
John Wilkes, jr.	November 3, 1854.
Gustavus Harrison	November 3, 1854.
<i>Midshipmen.</i>	
William H. Toon.....	December 8, 1853.
Charles L. O. Hammond.....	March 23, 1854.

A—Continued.

Name and rank.	Date of acceptance.
Jeremiah C. Sullivan	April 14, 1854.
Edward J. Means	June 19, 1854.
John P. Brintnall	June 21, 1854.
James H. Rowan	July 28, 1854.
William McN. Armstrong	October 4, 1854.
<i>Acting Midshipmen.</i>	
Henry B. Dox	February 10, 1854.
John Crawford	April 26, 1854.
Richard L. Gorman	May 2, 1854.
Edwin H. Dooley	May 3, 1854.
W. G. McCandless	May 4, 1854.
William W. Ashe	June 22, 1854.
Charles E. Cushman	June 22, 1854.
H. L. Ingraham	June 22, 1854.
Charles S. Wagstaff	June 22, 1854.
Henry L. Warren	October 25, 1854.
D. H. Ingraham	October 26, 1854.
John B. Campbell	October 27, 1854.
Titus T. Holliday	November 1, 1854.
De Wayne Stebbins	November 4, 1854.
<i>Boatswains.</i>	
Edward Brady, (acting)	April 8, 1854.
John Crosby	September 18, 1854.
<i>Gunners.</i>	
Thomas P. Venable	May 15, 1854.
Andrew A. Randall	November 27, 1854.
<i>Acting Sailmaker.</i>	
Alexander Davis	June 5, 1854.
<i>1st Assistant Engineer.</i>	
Edward A. Whipple	February 20, 1854.
<i>3d Assistant Engineers.</i>	
Henry C. Jewell	January 11, 1854.
Cornelius T. Parke	May 31, 1854.
Samuel O. Shorey	June 3, 1854.
Hiram Haines	July 4, 1854.
John C. Mitchell	November 16, 1854.
MARINE CORPS.	
<i>Brevet Major and Captain.</i>	
A. H. Gillespie	October 14, 1854.
<i>Naval Storekeeper.</i>	
Joseph C. McKibbin	July 19, 1854.

A—Continued.

List of dismissions in the navy since December 1, 1853.

Name and rank.	Date of dismissal.
<i>Captain.</i>	
Samuel W. Downing	September 11, 1854. *
<i>Master.</i>	
Wesley W. Bassett.....	September 22, 1854.
<i>Passed Midshipman.</i>	
Samuel P. Griffin	June 15, 1854.
<i>Midshipmen.</i>	
Chastain C. Cannon.....	July 25, 1853.
John N. Quackenbush	January 3, 1854
<i>Acting Midshipmen.</i>	
Charles D. Lallande.....	February 28, 1854.
Walter Barrett	February 28, 1854.
E. S. Allen.....	February 28, 1854.
Albert S. Carriere	February 28, 1854.
F. W. Bond.....	February 28, 1854.
R. J. Hosmer	February 28, 1854.
R. Y. Holley	February 28, 1854.
F. P. Vultee	February 28, 1854.
J. R. Orton	February 28, 1854.
Henry J. Bishop.....	February 28, 1854.
Fitz Henry Wheeler	February 28, 1854.
Clarence Hunter.....	February 28, 1854.
Samuel M. Butler.....	May 20, 1854.
Samuel A. Smith.....	June 16, 1854.
<i>Boatswain.</i>	
Frederick Dunbar, (acting)	December 20, 1853.
<i>Carpenter.</i>	
Hugh Lindsay	December 9, 1853.
<i>3d Assistant Engineer.</i>	
Frederick G. Sumwalt.....	September 29, 1854.
<i>Navy Agent.</i>	
Isaac Hull Wright	October 4, 1854.†
<i>Timber Agent.</i>	
Erasmus D. Tracy	January 7, 1854.

* Cashiered.

† Commission expired.

B.

U. S. NAVAL ACADEMY, ANNAPOLIS, MD.,

June 19, 1854.

SIR : The Board of Examiners had the honor, on the 9th instant, to submit a full report of their proceedings under that portion of your order of the 30th of May relating to the examination of the classes of midshipmen at the Naval Academy, and they have since proceeded to carry out the latter part of your instructions, and now submit their final report.

The acting midshipmen in attendance at the Naval Academy embrace all who have been appointed since October, 1851, and are divided into four classes.

The first class is composed of but six members, selected with others, for their proficiency, from the appointees of 1851, to form an advanced class, which was expected to accomplish the course of study prepared for four years in three years.

Those six young gentlemen have accomplished their task, and acquitted themselves in all the branches, practical and theoretical, in a manner that entitles them to the best praise the board can bestow. It is not too much to say, that their professional accomplishments are of the highest order.

This is the first class that has graduated at the academy under the new plan of organization adopted in 1851, and the results of its examination afford the most satisfactory evidence of the capability of the institution to supply the navy with officers accomplished in every useful professional branch, both practical and scientific.

In seamanship, naval tactics, and naval architecture; in gunnery, infantry tactics, and the use of the small-sword; in the construction and management of steam-engines; in mathematics, nautical astronomy, and surveying, together with the management and adjustment of the instruments used in those branches; in speaking and writing the French and Spanish languages, and in the English studies, each member of this class has exhibited remarkable proficiency.

The board were also very favorably impressed by the examination of the younger classes, and feel assured that at their final examination they will not be less distinguished than the class just graduated, whose example is so worthy of their imitation.

The proficiency of the first sections of the 3d and 4th classes deserves to be specially noticed.

In watching the progress of this examination, it has occurred to the board, that many of the acting midshipmen are admitted into the academy at ages when their minds are not sufficiently developed to enable them to master the course of study through which they are expected to pass. The regulations allow their admission between the ages of fourteen and sixteen. The board are decidedly of opinion that the period of admission should be from fifteen to seventeen years; and in view of the manifest advantages that the acting midshipmen derive from their service in the practice-ship, the board would respectfully suggest that chapter eight of the regulations be so amended as

to require them to serve but two years at sea, after leaving the academy, before they are made to present themselves for final examination.

The examination of the classes of acting midshipmen in seamanship, has furnished the most gratifying evidence of the practical advantages to be derived from the annual cruise in the practice-ship, and from the boat service at the academy.

The midshipmen who acquitted themselves most creditably in this branch before the board, and who have served four and five years at sea, did not exhibit a greater knowledge of seamanship than did the acting midshipmen of the first class, who have made two cruises in the practice-ship under the immediate instruction of officers appointed for that purpose; and in making this comparison, the board do not intend to undervalue the proficiency of the midshipmen, but merely to bring more prominently to notice the superior excellence of the system of instruction as pursued at the academy.

Notwithstanding the high commendation that the board have deemed justly due to this department, they are satisfied that the means and appliances for conducting the instruction are defective. They beg leave to refer to the report of their predecessors on this subject, and to urge upon the department the importance of providing the academy with a practice-ship adapted in all respects to its wants, and fitted with auxiliary steam-power, that the acting midshipmen may have a better opportunity than they now enjoy, of acquiring a thorough acquaintance with the management of the steam-engine, a branch of knowledge now only second in importance to that of seamanship. The board were surprised that, with the very inadequate means possessed by the academy for instruction in this department, so great a degree of proficiency could have been attained, and it has suggested to their minds the important inquiry, whether it will not be practicable, when the academy shall have furnished to the navy a larger number of young officers well instructed, practically and theoretically, in the use and management of the steam-engine, to expect and require of them all the duties of the engineer, as well as those of the seaman and navigator; so that when they reach the rank of commanding officers, they may be able to direct intelligently and efficiently the labors of all classes of officers under their command.

In view of the great and growing importance of the steam-engine, as applied to ships-of-war, the board have given very mature consideration to this subject, and are satisfied that the union of the duties of engineer with those of the sea-officer, so far from being incompatible, will be found entirely practicable and of decided advantage.

The watches may be so arranged as to give to each officer, who leaves the academy, his regular tour of duty at the engine and on deck, and thus an intimate knowledge of the duties of the engineer and sea-officer may be kept up at the same time.

This system might be put in partial operation from the present time, and when the number of graduates are sufficient to fill all the positions at the engines of our naval steamers, its great practical utility would, in the opinion of the board, be very apparent.

The board have made this suggestion for the consideration of the

department, believing that its adoption will ultimately tend to the greater efficiency of the navy.

In this connexion the board would suggest that a greater portion of time should be allotted for the instruction in the management and construction of the steam-engine, than is provided for in the programme of studies as at present arranged.

In further execution of your instructions, the board have made a careful examination of the system of police and discipline, and of the general management of the institution, and are satisfied that they are eminently judicious, and calculated to secure good order and regularity in all the departments and business of the academy.

The salubrity of the location of the academy, and the regulations for the security and preservation of the health of the students, need no other commendation than the mention of the fact, that but one death has occurred among the students since the establishment of the academy, in October, 1845, a period of nearly nine years.

The board made a careful inspection of all the public halls, dormitories, hospital, grounds, practice-ship, and all the apparatus of every description. The buildings are plain and substantial, and well adapted in their internal arrangements to the purposes for which they were erected.

The institution is well provided with apparatus in the departments of astronomy, natural philosophy, and gunnery; a new hospital is in progress of erection; a substantial wall and pavement are nearly completed around the additional grounds, recently acquired by purchase; and the public grounds are undergoing such improvements as can be made by the limited force now at the disposal of the superintendent.

The northern water-front of the academy grounds is at present in a very exposed state, and is much in need of a strong wall to protect it from washing. The board beg leave to second the superintendent's application for an appropriation for this purpose, and to add that they deem it an improvement essential to the security of the foundations of the recitation and mess halls, the chapel and dormitories, erected along the bank of the Severn.

The removal of the houses occupied by the commandant of midshipmen, and several of the professors, from their present positions to the wall along Hanover street, would add greatly to the available space within the enclosure, which the board deem very desirable, as an additional mode of contributing to the contentment of the students, who are necessarily restrained from going beyond the walls.

The board desire to invite the attention of the department to several other subjects which, in their judgment, have a direct and important bearing upon the interests of the institution.

The association of the midshipman who has reached the age of manhood, and served four or five years in our ships-of-war, unaccustomed to the confinement of study and the restraints that are necessarily imposed at an institution of this kind, with the acting midshipman of tender years, who has just been appointed to the academy, is evidently injurious to both classes; and, although there does not appear to be an immediate remedy for the evil, the board would respectfully state, that its existence may be shortened by calling from foreign service all

the midshipmen of the dates of 1849 and 1850 in time to join their respective classes at the academy in October of the present and next year.

In the opinion of the board, the compensation now allowed to the professors and instructors is not sufficient to secure and retain the services of gentlemen who are qualified in the highest degree to fill those important stations. The prosperity of the institution depends, in a great measure, upon the efficiency of its academic staff; and unless these positions are made at least as desirable in point of compensation as those at the best institutions of learning in the country, the academy will not be able to command the services of the best instructors. The board would respectfully recommend that the compensation of the academic staff of this institution should be made to correspond as nearly as possible with that of West Point, and that the legislation which may be necessary to accomplish this desirable end be made to cover the cases of such officers of the navy as may perchance be called hereafter to fill any position in the staff.

From the careful examination that the board have made of the institution, in all its details, they are fully satisfied, that to apply the system of rotation in service that prevails in the navy to all the positions that officers are called upon to fill here, would have a very prejudicial effect upon the interests of the academy. The duties that devolve upon the officers of the navy at this institution are distinct in their character, and require peculiar qualifications. The usefulness of the institution may be seriously impaired by frequent changes and unfortunate selections. The board cannot too urgently press upon the department the consideration of this important point.

In conclusion, the board desire to record their appreciation of the valuable and efficient services of the superintendent and his subordinates, and having completed all the duties required by your order of the 30th of May, will adjourn *sine die*.

I have the honor to be, very respectfully, your obedient servant,

J. McKEEVER,

President of the Board of Examiners.

Hon. J. C. DOBBIN,

Secretary of the Navy, Washington.

C.

U. S. NAVAL ACADEMY, ANNAPOLIS, MD.,

October 3, 1854.

SIR: I have the honor to transmit, herewith, a copy of the report of Commander Craven, of his last cruise in the practice-ship Preble;

And am, very respectfully, your obedient servant,

L. M. GOLDSBOROUGH,

Superintendent.

Hon. J. C. DOBBIN,

Secretary of the Navy, Washington.

U. S. PRACTICE-SHIP PREBLE, ANNAPOLIS, MD.,

September 30, 1854.

SIR: In obedience to your instructions of the 19th of last June, the practice-ship (with the second and fourth classes of naval students embarked) sailed from this port on the 20th, anchored in Hampton roads on the 24th, was filled up with wood, water, and provisions, and finally left the Chesapeake, to proceed on her cruise, on the 28th of the same month.

The course of instruction to the young gentlemen, in seamanship, gunnery, and navigation, has been but little varied from that of the three previous cruises. In seamanship, they have been carefully taught to knot, splice, strap blocks, turn in dead-eyes, and fitting of rigging in all its details; and in their exercises they have been thoroughly drilled in loosing, furling, reefing, bending and unbending sails, sending up and down top-gallant yards and masts, housing lower yards and top-masts, &c., &c.

The young gentlemen of the second class have during the day-time always had charge of the deck, and in the execution of the daily routine of duties incident thereto, and in performing the various evolutions of tacking and wearing, box-hauling, &c., making and taking in sail, the majority of them have become quite proficient; and since our arrival in the Chesapeake, they have all had opportunities of witnessing the various methods of getting a ship under way, such as riding head to tide, with wind abeam, wind on the quarter, aft, and particularly that of riding head to wind and tide in a narrow channel; to get under way and avoid dangers on either beam and astern; and were also practised in working ship (tacking and wearing) without the use of the rudder. At the wheel in steering, and in the chains with the hand-lead, the members of both classes are quite expert; and there are several of them who, either as helmsmen or leadsmen, will compare well with our most experienced seamen.

In gunnery they have been fully exercised, but owing to the unfavorable weather at sea the practice at target-firing was necessarily abandoned; since our return to the Chesapeake, however, this very important practice has been resumed, and with the most satisfactory results. For the purpose of comparison, on three or more occasions, the guns of a broadside were equally divided between the crew of the ship and the acting midshipmen, and the results were, in each case, that the firing of the young gentlemen who had had the benefit of instruction at the academy was vastly superior to that of the crew, who had only been exercised at the guns for the time the ship had been at sea, and a majority of whom were, as far as acquaintance with the routine and exercises of a man-of-war are concerned, very much the kind of men we should have to depend on for manning our ships in case of war. To make this comparison more definite, I will state that on the morning of the 25th, out of twenty-three shot fired by the crew, *not more than four* struck within ten feet of the target, all the others being more or less wild in direction and elevation; while of the same number fired by the acting midshipmen, *not one* was *outside* of ten feet to the right or left of the target, and *any one* of them would have struck a ship's launch moored where the target was, (a distance of 940 yards;) and I think I

may confidently assert that *fifteen* out of the twenty-three shot fired by the young gentlemen were *within* two feet of the centre of the target, *two* of them struck the flag-staff, and five others were certainly within six or eight inches of it.

In navigation, the young gentlemen of the second class have been instructed in all of Bowditch's methods for ascertaining the position of a ship at sea; and since leaving Brest, they have been required to take turns in navigating the ship, handing into me at any hour of the day or night, as I might call upon them, the ship's approximate position.

The young gentlemen of the fourth class have been taught how to use the sextant, to ascertain the ship's position by dead reckoning, latitude by meridian observation of the sun, and to work out bearings and distances by the various methods in Bowditch.

Our visits to the ports of Plymouth, Cherbourg, and Brest were very interesting, and I hope instructive. The officers in command of those stations were very kind and polite in their attentions to us, and afforded us every facility for viewing and examining every part of their dock-yards, their work and machine shops, their ships in the course of construction, of being fitted for sea, and those in ordinary.

At Brest we visited their school-ship, La Borda; but as all the students were absent, we had no opportunity to examine into their system of instruction. Here we were particularly struck with the great care taken to train up expert seamen for their navy, and the importance attributed to that object. For this purpose there is a large ship, on board of which such as are destined for the service are taught to read and write, as well as gunnery and seamanship. For this latter branch of instruction they have two fine brigs, on board of which from two to three hundred boys, between thirteen and sixteen years of age, are daily exercised in getting under way, making and taking in sail, reefing and furling, and indeed in all the duties required of thorough seamen. Every six months about one thousand of the best qualified of them are draughted into the naval service.

In conclusion, sir, it affords me great pleasure to acknowledge my obligations to Lieutenants Tilghman and Marcy, and to Acting Masters Buckner and Philip, for their cheerful, prompt, and very efficient assistance in the various instructions imparted to the students.

Very respectfully, sir, your obedient servant,

THOS. T. CRAVEN,

Commandant of Midshipmen.

Com. L. M. GOLDSBOROUGH,

Superintendent U. S. Naval Academy,

Annapolis, Md.

D.

CAMBRIDGE, *October 20, 1854.*

SIR: I have the honor to submit to the department the following report of the state and progress of the work under my charge.

Since the publication of the *Astronomical Ephemeris* and *Nautical*

Almanac for 1856, the whole force of the office has been employed in the preparation of the succeeding volume, that for 1857. The work has progressed steadily and regularly.

The experience of each preceding year has improved the mode of dividing the work among the assistants, and of adjusting the several parts to each other with the best economy of time and labor. This improvement may be carried still further.

The volume for 1857 will contain in the body of the work about the same number of pages of purely astronomical matter as that for 1856.

There is some difference in the occultations of planets and stars by the moon, which, this year, considerably exceed those of last year. The number of pages, including the explanation, will be a little more than five hundred; of which, between four hundred and seventy and four hundred and eighty are the results of calculation. Of these, above four hundred are completed, and either printed or in the printer's hands. The remainder are in a very advanced state of forwardness.

The appendix to the forthcoming volume will contain, besides the usual tables, the logarithms of the Le Verrier coefficients of the disturbing function, computed by the late Mr. Sears C. Walker, the final preparation of which for the press was interrupted by his death, and has since been completed by Prof. E. Otis Kendall, of Philadelphia.

The preparation of the volume for 1858 is commenced, and the greater part of the assistants will, in the course of the next month, be actively employed upon it.

The work of the next year will be distributed as follows:

Prof. Peirce, besides such special charge as may be assigned hereafter, will direct the construction of general tables, will make proof computations, and supply theoretical instruction when required. Prof. Winlock will be employed on the sun and Mercury, and will be assisted by Mr. Eastwood. Mr. J. D. Runkle, Mr. Wright, Mr. Kerr, Mr. Oliver, Mr. C. A. Runkle, and Mr. Eastwood, will be engaged on the moon's ephemeris; Mr. Safford on the lunar distances; Mr. Loomis on the moon culminating stars and moon culminations, and also in assisting Mr. Safford in differencing proofs and copying for the press; Mr. Sprague on the fixed stars; Prof. Kendall on Jupiter and Neptune; Mr. Downs on the occultations; Mr. Schubert on certain asteroids; Miss Mitchell on Venus; and Mrs. Bache in copying for the press.

Prof. Van Vleck will prepare the ephemeris of Saturn, and Prof. Hedrick those of Mars and Uranus.

In addition to the above, there is a certain amount of miscellaneous and incidental labor, which is distributed among the assistants. In general each assistant prepares his own pages for the press, and differences the stereotype proofs.

The recent discovery by Mr. Ferguson, of a new planet, which has conferred such distinction upon the National Observatory and on astronomy in America, affords me an opportunity of inviting the attention of the department to the manner in which these small planets, or asteroids, have multiplied since the establishment of the work under my charge.

In 1849, when the first appropriation was made, ten asteroids only

were known; the list is now increased to thirty-one. I have been in hopes, as the department is well aware, of obtaining the co-operation of foreign offices similar to this, in some general plan of treatment of the asteroids. But if I fail to bring this about—and there is no prospect of it at present—I shall be obliged to ask for additional means to enable us to take charge of them alone. Nothing, however, has been added to the estimates of the ensuing fiscal year; and there is still a hope that the proposal for a common contribution of labor on this subject, which would be honorable as well as advantageous, may finally find acceptance.

The long looked for Tables of the Sun, by P. H. Hansen, have appeared this year, and are introduced into the office. Corrections of the sun's ephemeris for the years '55 and '56, to suit it to these tables, have been computed and published. Prof. Hansen's tables have fully come up to the high expectations of astronomers, raised by the distinguished reputation of their author; they very much increase the facility and accuracy of computation in the ephemerides.

In addition to the regular duties of the office, during the past year, the following work has been accomplished:

1. There have been prepared and published a new and improved set of tables of the moon's parallax, constructed from recent formulæ of the late Mr. Sears C. Walker, and of the English astronomer Mr. Adams. They form a supplement to the first edition of the "Tables of the Moon," published in this office, and will be incorporated into the body of that work when a second edition is published.

2. A pamphlet containing Mr. George Bond's new method of quadratures, is in the course of publication. This is an improved method of taking account of the perturbations in order to the predicting a correct ephemeris of the asteroids. It will be printed for the use of the office.

3. A pamphlet containing the formulæ for computation, tables of data, and a chart of the annular eclipse of May 26th, 1854, was published jointly by the Smithsonian Institution and the Nautical Almanac.

I have the honor to transmit, in company with this report, the remaining copies of the estimates for the fiscal year ending 30th June, 1856, and the amount of expenditures, as directed in your communication of August 11.

During the past year changes have taken place among the assistants of the office by resignation and by new appointments. All of these have been already communicated, and have received the approval of the department, with one exception, which is the recent resignation of Mr. Bradford. The latter is now made known in a separate letter accompanying this report, in which I have submitted to the approval of the department some corresponding changes in the salaries. These changes are not great.

Finally, I have the honor to inform the department that the duties of the office are systematically arranged and regularly performed, and that the progress of the work has been, upon the whole, satisfactory.

Very respectfully, your obedient servant,

CHARLES HENRY DAVIS,

Commander, Superintendent Nautical Almanac.

Hon. JAMES C. DOBBIN,

Secretary of the Navy, Washington, D. C.

E.

WASHINGTON, *October 25, 1854.*

SIR: I have the honor to inform you that, in obedience to your order, I organized my party for the exploration of the Isthmus of Darien between Caledonia bay on the Carribean Sea, and the Gulf of San Miguel on the Pacific, and, reporting myself and party to Commander George N. Hollins, of the United States ship *Cyane*, sailed from the port of Philadelphia on the 20th of December last.

Touching at Carthagena, to communicate with the New Grenadian authorities, we arrived at Caledonia bay on the morning of the 17th of January of the present year. Since the breaking up of the Spanish establishments in this portion of the Isthmus, in about 1788, the Indians had shown an invincible repugnance to permitting access to their territory, which had effectually prevented any one from making a satisfactory examination, and we have no account of any one having landed on the shores except Messrs. Cullen and Gisborne, each of whom published reports which experience has shown to have been utterly fallacious. Finding that we had arrived in force, the Indians showed us more than ordinary courtesy, but begged that we would not land until the arrival of their chiefs or "old men."

On the 18th, a large number of the principal men came on board the *Cyane*, where a council was held by Commander Hollins, which lasted some eighteen hours. For a long time the Indians most tenaciously opposed our landing, but finally conceded the permission to traverse the country, stipulating that their private property, and especially their women, should be religiously respected.

On the evening of the 19th of January, my party landed and quartered for the night at the mouth of the Caledonia river, in an Indian fishing village which had been deserted before our arrival. Some provisions having been lost by the capsizing of a boat in our debarkation, we were detained until meridian, January 20, when we commenced our march up the valley of the Caledonia, one party following the bank, while another, which I accompanied, ascended the river in a canoe, which we were soon compelled to abandon owing to the shallowness of the river.

The party when they left the beach consisted of Passed Midshipman William T. Truxtun, First Assistant Engineer John M. Maury, and Midshipman H. M. Garland, United States Navy. The civil engineers and assistants were A. F. Boggs, S. H. Kettlewell, Sterett Hollins, G. U. Mayo. Dr. J. C. Bird was surgeon of the party. Theodore Winthrop, Mr. Holcomb, and Frederick Avery, were volunteers, serving without pay, but performing the duties of assistant engineers. In addition to these gentlemen were thirteen of the crew of the *Cyane*, volunteers who had been permitted to accompany me by commander Hollins.

Messrs. Ramon Castello Rada and Bernardo Polanco, commissioners sent by the government of New Grenada, in advance of the *Cyane*, to explain our peaceable intentions to the Indians, had also joined our party, which numbered in all twenty-seven men, well armed with carbines and muskets, and forty rounds of ammunition each.

With the exception of the seamen of the *Cyane*, the party were armed with Colt's pistols, with fifty rounds of ammunition for each. Every member of the party carried a blanket, and haversack containing ten days' provisions, which, depending upon the official statements of Mr. Gisborne, I supposed would be sufficient to carry us across the country and back, although we had reason to believe that we could supply any deficiency from H. B. Majesty's steam-sloop *Virago*, which had been stationed in Darien harbor, on the Pacific.

Our first day's journey terminated at a deserted Indian rancho, where we passed the night, and continued our journey early on the following morning. About 8 a. m. on the 21st, we arrived at a small branch of the river, which entered from the southward and westward, from which, owing to the scanty vegetation, which appeared to be destroyed by the inundations of the rainy season, we had a fine view of a large portion of the Caledonia valley.

Very much to my surprise, I found the whole valley enclosed by a semi-circular range of mountains abutting upon the seacoast range, and forming a barrier ranging in height from 3,500 to about 1,000 feet. Carefully examining the whole range with an excellent spy-glass, I could find no opening in any direction; but as Lionel Gisborne, civil engineer, whose report and maps were in my possession, had stated above his professional signature, to his employers in England, and had promulgated to the world, that the summit-level between the two oceans was but one hundred and fifty feet, I was convinced that there must be some lower point which we had not discovered. As the eastern branch of the river was much the largest and most likely to cut through the Cordillera, I determined to follow it, which I did until about meridian, when finding that it was leading us by a series of rapids and cascades into the highest range of mountains and away from the Pacific, I determined to retrace my steps and follow the southwest branch, which we had passed in the morning. In our ascent upon the eastern branch of the river, we had marched through an Indian village capable of containing some 800 inhabitants, but was entirely deserted in anticipation of our arrival. Above the village we met three Indians, one of whom wished to prevent our ascending the eastern branch of the Caledonia, and attempted to lead us towards the southwest branch; but I believing that he only wished to get us away from their village, refused to accompany him. Subsequent events tend to convince me that he acted in good faith, and would have shown us the path leading to the Pacific watershed.

Following the southwest branch until about sunset, we encamped on its bank, and on the following morning continued ascending until our progress was barred by a cañon too deep to ford, with high and scarped banks on each side. The party surmounted this obstacle by different routes; some climbing the steep bank near the cañon, while I, with a majority of the officers and men, sought an easier ascent about one hundred yards below. While ascending at this point I was fortunate enough to discover an Indian trail, which I was convinced led to the Pacific side of the Cordillera, and making the customary recall, soon had all the party collected except Messrs. Holcomb, Bird, Winthrop and Hollins, and a seaman from the *Cyane* named Roscoe.

I caused three carbines to be fired in quick succession, which was a positive signal for the recall of all parties. This signal was answered apparently some distance up the river; and supposing that they were looking for some easier ascent to rejoin, we continued on the Indian trail to the westward, occasionally firing carbines and receiving responses.

Following the path and crossing three peaks, increasing in height as we advanced, we descended the western slope, and at 1.15 p. m. found ourselves on a stream running to the westward, which I was convinced had its embouchure in Darien harbor; and, according to the maps of Messrs. Cullen and Gisborne, who each projected maps as the result of their own personal observation, ought to have been a branch of the Savana. While crossing the Cordillera and having arrived at the summit of the first peak, one of the seamen of the *Cyane* climbed a tree to obtain, if possible, a view of the country, but reported nothing but high mountains in every direction. The highest peak over which we crossed was between 1,400 and 1,500 feet above the level of the sea, but a lower summit of about 1,000 feet existed on the left of our path, which was impassible, owing to the scarped porphyritic rocks and its general ruggedness. This point I believe to be the lowest summit between the Caledonia valley and the Pacific, and in itself is a sufficient obstacle to place a canal of any kind utterly out of the question, even if no others existed. Arriving at the stream already alluded to on the western slope of the Cordillera, we waited until 10 o'clock a. m. the following morning, hoping that our five companions might rejoin us; but despairing of a re-union, and feeling the importance of pushing on as rapidly as possible, we followed the bed of the river, first leaving a note, giving the names of the missing, and directing them to return to the ship if they should receive my letter after that day.

On the day on which that note was written they had already commenced their return to the *Cyane*, which they reached in safety, and never rejoined us afterwards. The small stream which we had first met led us to a larger river, which proved to be the Sucubti, an important tributary of the Chucunaqua, utterly ignored by Mr. Gisborne in his engineer's report, by which I had expected to be guided.

Until the 25th of January we followed this stream, generally wading in its bed as an easier means of locomotion than to cut our way through the dense jungle on its banks. Indians were almost always in our vicinity, especially at night, but never attempted an attack, although they burnt their houses and removed all their provisions and canoes as we advanced.

Arriving at the Sucubti village, one of the most important in this part of the isthmus, we found it unburnt but deserted, and on a shingle beach near to it were seven canoes which had been recently destroyed, and so effectually that it was utterly impossible to repair them. Forging the river, which had now become a considerable stream, with some difficulty, we met in the forest near the other bank five Indians, who offered to guide us to the Savana. The leader of the party spoke Spanish intelligibly, and had been on board the *Cyane* before we left her, in Caledonia bay.

I determined to trust myself to their guidance, but took every possible precaution secretly to enable us to return to the river, in the event

that they should abandon us in the forest. We slept that night in a deep ravine, the Indians insisting upon returning to their habitations; but in accordance with their promise, they rejoined us the next morning, when we continued our march, crossing two hills of the height respectively of 800 and 600 feet. From the summit of the first we had an open view to the westward, the portion of country through which the straight line of Messrs. Cullen and Gisborne would have to pass, and we saw nothing but high mountain ranges. Soon after we met several Indians belonging to the Chucuna tribe, the most hostile and perhaps the most numerous on the whole isthmus. Their chief addressed a long speech to me, apparently opposing our passage; but as my guide and interpreter refused to interpret it, we remain, up to the present time, in profound ignorance as to its tenor. The march of this day was the most painful which we had yet made, and some of our party, among whom were the Grenadian commissioners, were thoroughly broken down. At sunset we encamped on an island in a river about equal in the body of water to the Sucubti at the point at which we had left it. Our interpreter was unable to give me its name, but it subsequently proved to be the Chucunaqua, the principal river on the isthmus. To my surprise and annoyance, our guide notified me this evening that he must return to Caledonia bay, but assured me that his friends would guide us to the Savana, which we would reach in two days, and supply us with canoes, with which we could reach Darien harbor on the evening of the third day. His refusal to take a letter for me to Commander Hollins did not increase my confidence in our new guides; and when, knowing that a large body of Indians were in the vicinity, I carefully stationed the camp guard for the night, it was with no very agreeable anticipation for the future. The next morning we were eight days from the beach, and I was informed that some of the men were totally without provisions. Ascertaining the truth of this report, I ordered the officers to divide their food, which they had more carefully used, when we found that, for the whole party, we had provisions for only one day. Plantains and bananas were abundant in the vicinity of the camp, but the Indians would neither sell nor give; and as I felt bound by my promise made to the chiefs on board the *Cyane*, I determined to await a greater emergency before supplying the party by force. Our former guide left us on this morning without taking leave, and refused all compensation for his past services, while the five new guides made their appearance, armed with their bows and steel-pointed arrows, which they use only in war—pointed arrows of very hard wood being only used in hunting.

From the moment they appeared, I suspected them of treacherous intent, and was not greatly surprised when, after leading us down the river about two miles, they led us off into the forest, by a path which led to the westward, and abandoned us.

We continued to follow the path until it terminated at a deserted hut, when we counter-marched, and with some difficulty found our way back to the river. Here I called my first and last council, when it was determined unanimously by the officers, New Grenadian commissioners, and civil engineers, that it was most expedient to follow the river on which we then were. We were inclined to believe that the course of

the river might prove to be a tedious route to the Pacific, but were certain of one fact, that it emptied into Darien harbor, which is the common receptacle of all the rivers in this portion of the isthmus. The nearest route to our destination was certainly by the river Savana; but as it was in the height of the dry season, there was no probability of obtaining water in the intervening country, which it would require some four or five days to traverse, as some of the party, especially the Grenadian commissioners, suffered very much from fatigue and sore feet. Having been abandoned by the Indians, there was not the slightest probability of our obtaining canoes; and we would still have had a journey of some thirty or forty miles along the bank of that river, constantly within the limits of tide-water, and among mangrove swamps, where game would not be found, and where half a mile a day would have been good average marching. The character of the growth in a mangrove swamp placed the construction of a raft utterly out of the question, as the timber is invariably too heavy to float and support any additional weight.

Even allowing that we had not been much reduced by thirst, while traversing the space intervening between the two rivers, our position on the Savana, without game or food of any kind, without fresh water, and without either canoes or a raft to enable us to reach Darien harbor, would, I am confident, have proved fatal to the great majority, if not all of our party.

These were the principal reasons which determined the council, in their unanimous decision, to follow the river upon whose banks we then were, which would certainly lead us to our destination, though probably by a very circuitous route.

From the 27th of January until the 31st, we continued to follow the banks of this river, subsisting upon plantains and bananas, which were found in deserted plantations along the banks.

On the 31st of January, in attempting to shorten our route by running compass courses across the bends of the river, we became separated from it, owing to an entire change in its course, and did not regain it until the 3d of February. As a large portion of the country which we traversed, while separated from the river, was swampy in its character, and liable to overflow during the rainy season, we were so fortunate as to obtain a supply of water sufficient to meet our wants.

Some wild turkeys, smaller birds, and a monkey, were killed during this period; so that, although we were very short of provisions, we had sufficient to support our strength for marching and cutting our way through the forest. A small quantity of palmetto or cabbage palm, and acid nuts from a species of palm, served to eke out our scanty supply of animal food.

On the 4th of February, finding that the river was pursuing a northeasterly course, we halted until about meridian on the 6th, for the construction of a raft, which, when all the appropriate timber we could find was consumed, had sufficient buoyancy to support Mr. Truxtun, (whom I placed in command,) the two Grenadian commissioners, Messrs. Boggs and Kettlewell, and one of the crew of the Cyane. With the main body of the party, I followed the banks of the river

until nearly sunset, when the signal of distress called me to the raft, which was some distance above us.

To my great disappointment, I found her progress checked by a large quantity of drift-wood, extending entirely across the river, and which would have required many days to remove. The depth of the water, and the high scarped banks on each side, placed it out of the question to take the raft to pieces and reconstruct it below, and I was reluctantly obliged to give the order to abandon it.

From that day until the 12th of February we continued our march, generally cutting our way through the thick jungle. Game was very scarce, and we sustained life principally on the acid covering of the palm-nuts.

Want of proper food began to tell severely upon the physique of the party, and each day our marches became shorter. On the 12th we halted early in the afternoon, on account of the debility of the Grenadian commissioners, not having made more than two miles.

Feeling aware that we must all perish before we would probably emerge from the forest, at this slow rate of travelling, I attempted to construct a raft which would have buoyancy sufficient to support three men, whom I intended to send down the river to obtain canoes and provisions. Cutting down a tree of the most buoyant wood we could find, we discovered, upon trial, that though it would float, it would support no additional weight, and we were again obliged to abandon the project of a raft.

On the next morning, (13th of February,) I called the party together, and stating my intention to advance in person in search of canoes and provisions, called for volunteers, and of some five or six of the strongest who offered their services, selected Mr. Frederick Avery, (volunteer,) Golden, and Wilson, two of the crew of the *Cyane*. Placing the party formally under command of Mr. Truxtun, we set out on our lonely journey, and were fortunate enough to accomplish some eighteen miles before dark. At our camp of this night I left a note for Mr. Truxtun, which he found, upon the arrival of the main body, four days afterwards.

The next day, swamps and almost impenetrable jungle impeded our progress, and in the evening we halted near some driftwood, of which we constructed a raft. Here also we found some acid nuts, which was the first food of any kind that we had eaten for two days.

After two days' navigation, during which time we were several times wrecked, and twice narrowly escaped with our lives, we were compelled to abandon the raft, and continue our journey by land. Boils and sores now made their appearance among us, and impeded our progress, as they generally attacked the feet and legs. Mr. Avery suffered most severely from this cause, but the men became much debilitated, and Golden was kept up with the greatest difficulty.

Finding the river, as we advanced, increased by tributaries, and comparatively free from rapids and snags, we constructed another raft on the 2d of March, with which we started on the 3d. On the 4th discovered tide-water, and on the evening of the 9th arrived at the Grenadian village of Yarvisa, the first settlement on the Chucunaqua.

Here we learned that her Britannic Majesty's steam-sloop *Virago*

was at Darien harbor, but expected to sail in three days for Panama; and, as it was all-important to intercept her, to obtain provisions and money, (of which we had brought but a small sum across the Isthmus,) I accepted Mr. Avery's offer to return for the party, and determined to set off at once for Darien harbor.

Four canoes were hired, and men employed the night of our arrival; but the difficulty and delay in obtaining the necessary provisions, prevented the relief party from setting out until about 9 o'clock p. m. on the following evening. It consisted of Mr. Avery, a Mr. Noriega, (whom I had employed as interpreter,) and the men with a supply of provisions sufficient for about ten days. The main body of the party having orders to follow down the river by easy marches, I had no doubt of their being relieved and brought down even before I could return from the Virago.

As there was a scarcity of canoes in the village, I had to wait until the next day, (11th,) and then take a very small canoe to reach Santa Maria de Real, some twelve miles below, and there obtained a canoe of sufficient capacity to navigate the lower waters of the river.

At daylight on the 12th we arrived at the village of Chapigana, at the mouth of the river, where I was informed by an old resident, Mr. Hossack, a Scotchman, that the Virago had sailed for Panama two days before, to be absent six days. He also informed me that the Atlantic and Pacific Junction Company, whose engineers and employés were under the control of Mr. Gisborne, had a depot of provisions about thirty-five miles distant, on the river Savana, at the mouth of the Lara.

The violent wind that day prevented my obtaining boatmen willing to cross the bay, but I was enabled to set out the next morning before daylight, and in the afternoon arrived at the depot, where I obtained provisions and money from W. C. Bennet, civil engineer, and at 1 a. m. on the 14th returned to Chapigana, where the difficulty of obtaining boatmen, and the strong tides, prevented my setting out until 11 p. m. of the same evening. The next night I arrived at Yarvisa, where I waited for intelligence from above during the 15th.

At about 4 a. m. on the 16th, Mr. Avery returned unsuccessful. He had arrived at the lowest camp of the main body, where, suspended to a cross over the grave of Holmes, one of the crew of the Cyane, he found a letter from Mr. Truxtun to me, dated March 5, in which I was informed that, despairing of my safety, they had determined to return to the banana plantations to recruit, and thence, by crossing the mountains, to attempt to regain the ship.

At this point the Grenadian boatmen, alleging a fear of Indians, positively refused to proceed; and none of the pecuniary inducements offered by Mr. Avery could induce them to change their determination. Mr. Noriega used all his influence, but without success; and this party, which was certainly within one day's journey of the main body, returned unsuccessful. On their descent, and about ten miles below the last camp, Parks, one of the crew of the Cyane, who had been accidentally separated from Mr. Truxtun's party, was found in a state of utter exhaustion.

He stated that he had been nine days without water, and had only

arrived on the banks of the river the day before he was found. When he arrived at Yarvisa he was perfectly delirious, and died within an hour.

I immediately demanded of the authorities a levy of thirteen men, to be placed under military discipline; and, hiring canoes, directed Mr. Avery to embark the provisions which I had brought up, and set off up the river as soon as the men could be collected from Yarvisa and the three adjoining villages of Santa Maria, Pinogana, and Molineca.

Determining not again to trust the safety of my party to the cowardly natives who had once failed, I embarked in the canoe—which I had retained to convey it to Darien harbor—and set out at once to meet the *Virago*, which vessel was expected on the day previous. The funeral of Parks I intrusted to Mr. Avery and the padre, who was paid for giving him all the rites of the Catholic church.

About eighteen miles below Yarvisa, I met the boat of the *Virago*, in charge of Lieutenant W. C. Forsyth, which, upon information given by Mr. Bennet, had been despatched the night before at midnight. Embarking in her, I arrived at Yarvisa soon after dark; and, after much delay in obtaining canoes which I had engaged, we set off up the river at about 11 a. m. on the 17th.

As the native levies had not yet made their appearance, I left orders for them to follow us. Soon after noon on the 18th, eleven joined us; which increased the number of our canoes to six. A shallow rapid effectually barring our progress in the *Virago's* boat, she was anchored and left in charge of nine men, while the remainder of the party embarked in canoes and prosecuted our journey up the river.

The next morning a more favorable disposition was made of our force, and the Grenadians, who are very skilful in the management of canoes, were placed in each to assist the English seamen. At the same time that I pay this justly merited tribute to their skill and dexterity, I must condemn their cowardice and want of good faith, as they wished to return on several occasions, and were only prevented by fear that force would be used to oppose it. On the morning of the last day of our ascent, they notified me that they would proceed no longer than that evening. They were essential to us, and should not have left without a struggle, which might have cost many lives; but this was fortunately prevented by our overtaking the main party, under Mr. Truxtun, about sunset on the 23d of March.

On the morning of the same day we discovered the remains of the junior New Grenadian commissioner, Mr. Bernardo Polanco, lying upon the grave of his senior, Mr. Castillo, who had died, and was buried by Mr. Truxtun's party. We buried him in the same grave, and continued our journey.

The main body, when found, were in the last stage of distress. Emaciated to the last degree by fatigue and starvation, not more than three or four could have reached the plantain-fields, and none could possibly have regained the ship. At least four, and perhaps five, would never have been able to have left the position on which they were then encamped.

Early the next morning we set out on our return, and arrived at Yarvisa on the 27th of March. On the evening of the same day,

Philip Vermelyea, one of the crew of the *Cyane*, departed this life, and was buried on the following morning (28th,) with the service of the church, alongside of his shipmate Parks.

The Grenadians were paid off and discharged, when I hired a large canoe, with an awning, to convey the party to Palma, a small village near the Boca Chica, or small entrance into Darien harbor, where I had ascertained that houses might be rented for our accommodation. They arrived the next night at their destination, while I went on board the *Virago* to return my thanks to Commander Marshall for the assistance which he had rendered us, and to make some arrangement by which our party should be rationed from his ship. Finding my party in pleasant quarters, with abundant supplies of all kinds, and assiduously attended by the medical officers of the *Virago*, I again left it in charge of Mr. Truxtun, and embarked in a canoe for Panama. Upon my arrival I met Lieutenant Fauntleroy, of the *Cyane*, who, accompanied by the Swedish consul at Panama, Mr. Charles Zachrisson, had made a search for our party on the river Chepo, or Bayano.

From Mr. Fauntleroy I obtained the necessary money to meet my expenses in the neighborhood of the Gulf of San Miguel, and to repay those who had so kindly advanced funds to me during my necessities; and hearing of the arrival of the *Cyane* at Aspinwall, I immediately crossed the isthmus to communicate with Commander Hollins.

Setting out on my return the next morning after my arrival, I chartered a sloop at Panama, and sailed for Darien harbor, with the intention of bringing up my party in case the *Virago* was not ready to sail.

After a passage of four days we met the *Virago*, with the party on board, all much improved except Mr. A. F. Boggs, who was sinking very rapidly. Arriving next morning at Panama, he was landed at the American hospital, where, notwithstanding all the care and attention which was lavished upon him, he died between 10 and 11 o'clock that night. Mr. Maury and myself had remained in Panama to await the result of his illness, while the party under charge of Mr. Truxtun had set out soon after their debarkation from the *Virago*.

My object was to give them two days to cross the isthmus, so that they might not be unnecessarily fatigued. On the following morning, having made all the necessary arrangements for Mr. Boggs's funeral, Mr. Maury and myself set off; and, having missed the regular train at Obispo, arrived at Aspinwall about 11 p. m., in a hand-car kindly supplied and conducted by the railroad superintendent at Obispo.

Early the next morning I reported myself to Commander Hollins, of the *Cyane*, when we immediately got under way for Havana, via Porto Bello.

This sir, ends the brief narrative of the Darien expedition. For the details of our journey I must refer you to my private notes already deposited in the Navy Department. The map of the country which accompanies it is only a rough compass survey, but I believe is sufficiently accurate for all practical purposes. I also accompany my narrative by a copy of Mr. Gisborne's map, which will fully explain what might appear errors in judgment on my part, when you remember how highly this person was endorsed in England, and that I trusted implicitly to his official report.

To Commander Edward Marshall and the officers and crew of the *Virago*, but especially to Lieutenant W. C. Forsyth, Assistant Surgeon William Ross, and Paymaster W. H. Hills, who accompanied me in my search for my party, I addressed a letter of thanks while in Darien harbor; and have been exceedingly gratified to learn that you had officially recognised their services, as well as those of W. C. Bennet, civil engineer, to whom my party and myself are so deeply indebted.

Any further action that might be taken by our government to express its sense of the services rendered by these officers and men, at the peril of their lives and health, to aid our countrymen, would be most gratefully welcomed by my party and myself.

For an account of the kind efforts of the Swedish consul at Panama, Mr. Charles Zachrisson, to discover and assist our party, I will take the liberty to refer you to a letter addressed to Commander Hollins by Lieutenant Fauntleroy, dated Aspinwall, April 17, 1854.

I would also respectfully beg leave to call your attention to the liberality displayed by Mr. A. J. Center, Colonel Totten, and other employés of the Panama railroad, who refused to receive any pay from me upon the occasion of my three transits across the isthmus, or for the transportation of my party. For other acts of courtesy and kindness we were under many obligations to them; and when it is considered that the service upon which I was employed was, to a certain extent, antagonistic to their interests, I do not doubt you will recognise their magnanimity and liberality.

I would respectfully recommend the members of my party to your favorable consideration, on account of their general good conduct and quiet endurance of the greatest privations. For endurance and thorough discipline under the most trying circumstances, I feel assured that few former expeditions present a parallel. The conduct of Passed Midshipman W. T. Truxtun, and first assistant engineer J. M. Maury, United States navy, was beyond all praise, while their self-sacrifice in providing for the wants of the feeble, while they themselves were upon the verge of starvation, is something superior to any commendation which I could bestow upon it. Midshipman W. H. Garland rendered to the other officers all the assistance which his own debilitated condition would permit. Those three officers I would respectfully recommend to the favorable consideration of the department.

My passing descriptions will give you a tolerably correct idea of the face of the country, and the feasibility of the project of a ship-canal route. The reports of Dr. Cullen and Mr. Gisborne were not founded, as they promulgated to the world, upon personal observation, and were found, upon an examination of the country, to be utterly incorrect. Instead of a summit-level of one hundred and fifty feet near the centre of the isthmus, as stated by Mr. Gisborne in his official report, the valley of the Caledonia is enclosed by a semi-circular range of mountains, varying in height from about 3,500 to 1,000 feet. The lowest point, which is some five miles from Caledonia bay, is inaccessible, and is composed of primary rock of the hardest character. The project promulgated by Cullen and Gisborne of cutting through in a straight line from Caledonia to a navigable point on the river Savana, a reported distance of thirty miles, is utterly impracticable, as it would

involve the necessity of canalizing two or three mountain ranges in addition to that which encloses Caledonia bay. The important rivers Sucubti, Chucunaqua, and others which would prove formidable obstacles to a canal for ships, are utterly ignored by Mr. Gisborne in his plan of a route.

The shortest distance by which a canal could possibly be cut across this portion of the isthmus I believe to be about fifty-three miles, with a cutting of about two hundred and fifty feet, to which must be added the thirty feet necessary for the depth of the canal. My conclusions are, sir, that the route between Caledonia bay and San Miguel or Darien harbor is utterly impracticable, and that sufficient treasure is not in circulation to meet the expenses of the work. For more satisfactory details, I will be obliged to refer you to the narrative which has been transmitted to the Navy Department for a thorough elucidation of this question.

Hoping, sir, though we were unsuccessful in discovering a route for a ship-canal, that our efforts, which only resulted in disproving a grand and attractive scheme founded upon ignorance or imposture, will meet your approbation,

I remain, sir, very respectfully, your obedient servant,

J. G. STRAIN,

Lieut. U. S. Navy.

HON. JAMES C. DOBBIN,

Secretary of the Navy, Washington, D. C.

F.

BALTIMORE, *October 17, 1854.*

SIR: I have the honor to acknowledge the receipt, yesterday, of your letter of the 14th instant, and to forward immediately, in accordance with its directions, the following brief report of progress in the inquiry upon alimentary substances used for provision in the navy, which the department has been pleased to commit to my charge.

Since my former report, the analysis and examination of the sugars, comprehending fifteen varieties known in commerce, have been undertaken and progressed with nearly to completion. But for the protracted sickness of my assistant, they would have been finished by this time.

Also, a long and interesting series of experiments upon the contractility of salts in solution have been made, both with the commercial salt and saltpetre, and with the chemical salts (using the last word here technically) which enter in varying proportions into their composition. These experiments bear as well upon the topic of exosmosis, mentioned in my former report, as upon the method of inspection which I propose for determining the purity of commercial salt.

Finally, during a great part of the present year, another series of observations have been continually going on upon masses of meat—beef and pork—duly exposed in contact (or pickled, as it were) with solutions of different densities, as well of the chemically-pure elements as of the commercial articles salt and saltpetre, into which these ele-

ments enter. The object of these experiments was to furnish, if possible, a scale of effect corresponding to known proportions of said chemical elements; which scale can be transferred to the observations made upon the commercial articles, and thus can furnish a probable and safe deduction as to the amount of influence exercised in composition by known or determined quantities of impurities (so to call them) always associated in the commercial articles, so as to enable us, in fact, to predict what and how much will be the diminution or increase of preservative effect to be expected from the greater or less association of such impurities, respectively. This research, if fertile, leads to a method of correcting in their earliest stages the ill effects that are then incipient upon the employment of improper materials in the original packing of the meat. It can be easily seen that the analysis and combination of such observations require no small portion of care and of time-consuming attention; they constitute one of the most delicate parts of my research.

What remains after they shall have been concluded, will be only the compilation and preparation of the report; which, if not as extensive in its scope as I originally designed, will, I hope, offer a full compensation for such restriction in an accurate thoroughness, and come to be regarded as a useful contribution to practical science, whose advancement was my only motive for undertaking the research.

I have the honor to be, sir, your obedient servant,

J. H. ALEXANDER.

Hon. J. C. DOBBIN,
Secretary of the Navy.

No. 1.

Estimate of the sums required for the support of the office of the Secretary of the Navy for the fiscal year ending June 30, 1856.

For salary of the Secretary of the Navy, per act of March 3, 1853, sec. 4, pamphlet edition of Laws, p. 212.....	\$8,000 00
For salary of the chief clerk, per act of March 3, 1853, pamphlet edition of Laws, sec. 3, p. 211.....	2,200 00
For salary of 1 fourth-class clerk, per act of March 3, 1853, pamphlet edition of Laws, sec. 3, p. 210.....	1,800 00
For salary of 1 fourth-class clerk, as disbursing clerk, per act of March 3, 1853, pamphlet edition of Laws, sec. 3, p. 211.....	200 00
For salaries of 6 third-class clerks, per acts of March 3, 1853, pamphlet edition of Laws, sec. 3, p. 210; of April 22, 1854, pamphlet edition of Laws, sec. 1, p. 276; and of August 4, 1854, pamphlet edition of Laws, sec. 6, p. 572.....	9,600 00
For salaries of 4 second-class clerks, per acts of March 3, 1853, pamphlet edition of Laws, sec. 3, p. 210; of April 22, 1854, pamphlet edition of Laws, sec. 1, p. 276; and of August 4, 1854, pamphlet edition of Laws, sec. 6, p. 572.....	5,600 00

No. 1—Continued.

For salary of messenger, per acts of April 30, 1822, sec. 1, Stat. at Large, vol. 3, p. 671; of March 3, 1851, sec. 1, Stat. at Large, vol. 9, p. 605; of April 22, 1854, pamphlet edition of Laws, sec. 2, p. 276; and of August 4, 1854, pamphlet edition of Laws, sec. 6, p. 572.....	\$840 00
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For salary of assistant messenger, per acts of April 30, 1822, sec. 1, Stat. at Large, vol. 3, p. 671; of April 22, 1854, pamphlet edition of Laws, sec. 2, p. 276; and of August 4, 1854, pamphlet edition of Laws, sec. 6, p. 572.....	480 00
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For salary of laborer, per act of Aug. 4, 1854, pamphlet edition of Laws, sec. 6, p. 572, including 20 per cent. allowed by decision of the Treasury Department under same act	576 00
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Total for salaries for fiscal year 1855-'56.....	29,296 00
Appropriated for fiscal year 1854-'55.....	\$29,296 00

Contingent expenses.

For blank books, binding, stationery, labor, newspapers, periodicals, and miscellaneous items.....	2,840 00
Appropriated for fiscal year 1854-'55.....	\$2,840 00

Total estimate for fiscal year 1855-'56.....	32,136 00
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Whole amount appropriated for fiscal year 1854-'55..	\$32,136 00
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CIVIL.

Salaries.....	\$29,296 00
Contingent.....	2,840 00

Estimate of the sums required for the expenses of the Southwest Executive Building for the fiscal year ending June 30, 1856.

For salary of superintendent, per acts of August 26, 1842, sec. 4, Stat. at Large, vol. 5, p. 524, and of September 30, 1850, sec. 1, Stat. at Large, vol. 9, p. 543.....	\$250 00
For salaries of four watchmen, per acts of August 26, 1842, sec. 4, Stat. at Large, vol. 5, p. 524; of September 30, 1850, sec. 2, Stat. at Large, vol. 9, p. 543; of August 31, 1852, sec. 1, pamphlet edition of Laws, p. 82; of April 22, 1854, pamphlet edition of Laws, sec. 2, p. 276; and of August 4, 1854, pamphlet edition of Laws, sec. 6, p. 572.....	2,400 00
For labor, fuel, lights, and miscellaneous items, per act of August 26, 1842, sec. 22, No. 1, Stat. at Large, vol. 5, p. 528.....	3,865 00
Total estimate for fiscal year 1855-'56.....	6,515 00
Appropriated for fiscal year 1854-'55, *\$6,265 00.	

* The difference between the estimates for 1855-'56 and the amount appropriated for 1854-'55 arises from the failure of Congress to appropriate for the salary of the superintendent for the present fiscal year, \$250.

Estimate of pay for the fiscal year ending June 30, 1856, of the commission and warrant officers of the navy, including the engineer corps not on duty, and also for the pay of those officers on duty who are not included in the estimates of the bureaus.

For pay of officers not on duty.....	\$339,100 00
For pay of officers on duty, attached to the United States coast survey.....	76,000 00
For pay of officers on light-house duty.....	16,000 00
For pay of officers on special service.....	27,450 00
	458,550 00
Appropriated for fiscal year 1854-'55... \$474,907 00	
NAVY.	
Pay of the navy	\$458,550 00

Estimate of the sums required for the transportation of the United States mails for the fiscal year ending June 30, 1856, as authorized by the acts of Congress approved March 3, 1847, March 3, 1851, and July 21, 1852.

For transportation of the mails from New York to Liverpool and back, per acts of March 3, 1847, sec 2, Stat. at Large, vol. 9, p. 187, and of July 21, 1852, sec. 1, pamphlet edition of Laws, p. 21.....	\$858,000 00
For transportation of the mails from New York to New Orleans, Charleston, Savannah, Havana, and Chagres, and back, per act of March 3, 1847, sec. 4, Stat. at Large, vol. 9, p. 188	290,000 00
For transportation of the mails from Panama to California and Oregon and back, per acts of March 3, 1847, sec. 5, p. 188, Stat. at Large, vol. 9, and of March 3, 1851, sec. 1, Stat. at Large, vol. 9, p. 623 .	348,250 00
	1,496,250 00
From which deduct the 10 per cent. required by act of March 3, 1851, to be refunded by deductions annually from compensation of the said lines, to repay the advances authorized by act of August 3, 1848, say 10 per cent. on the aggregate advances, \$874,000 ...	87,400 00
Leaving as amount necessary for mail service for 1855-'56	1,408,850 00
Appropriated for 1854-'55, nothing.	
SPECIAL.—Transportation of the mail.....	1,408,850 00

CAMBRIDGE, *October 20, 1854.*

SIR: I have the honor to transmit to the department, in compliance with its instructions, the following statement of the expenditure of money for the fiscal year ending June 30, 1854, and of the whole amount appropriated and expended to that date:

Amount expended during the fiscal year ending June 30, 1854.....	\$21,145 86
Whole amount appropriated to the same date.....	77,050 00
Total expenditure to the same date.....	76,637 27

The expenditure for the fiscal year 1853-'54 has been increased considerably by the observation and publication of tables and chart of the annular eclipse of May 26, 1854, and also by the publication of the tables of the moon's parallax, the cost of which was fully provided for by the means on hand, retained for that and similar purposes.

A detailed statement of the current expenses of the work during the present year is also respectfully submitted.

Very respectfully, your obedient servant,

CHARLES HENRY DAVIS,

Commander, Superintendent Nautical Almanac.

Hon. JAMES C. DOBBIN,

Secretary of the Navy, Washington, D. C.

Estimates for the American Ephemeris and Nautical Almanac for the fiscal year 1855-'56.

For salaries of computers.....	\$16,250
For purchase of paper, printing, &c., in order to publish in the year 1856 the Nautical Almanac for the year 1859....	3,630
For clerk	500
For contingent, including rent of office, fuel, servant-hire, &c.	500
	<u>20,880</u>

This estimate does not differ from that of the preceding year.

CHARLES HENRY DAVIS,

Comdr. and Supt. Nautical Almanac.

SPECIAL.

Nautical Almanac.....	<u>\$20,880</u>
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Detailed estimate of the current expenses of the Nautical Almanac for the fiscal year ending June 30, 1855.

COMPUTERS.

Professor Peirce.....	\$2,000 00
Professor Winlock.....	1,500 00
Mr. J. D. Runkle.....	1,600 00
Mr. Downs.....	1,000 00
Mr. Wright.....	1,000 00
Mr. Kerr.....	900 00
Mr. Sprague.....	900 00
Mr. Oliver.....	900 00
Mr. Loomis.....	900 00
Mr. Schubert.....	800 00
Professor Kendall.....	900 00
Mr. Eastwood.....	800 00
Miss Mitchell.....	500 00
Mr. C. A. Runkle.....	400 00

Mrs. Bache.....	\$300 00
Mr. Safford.....	600 00
Professor Vanvleck.....	300 00
Professor Hedrick.....	500 00
Extra computations.....	450 00
Salaries of computers.....	16,250 00
Mr. Kerr, clerk.....	500 00
Total, clerk included.....	16,750 00

MISCELLANEOUS.

Stereotyping and printing 600 pages, at \$5 per page.....	\$3,000 00
Servant-hire.....	120 00
Paper.....	650 00
Binding Almanac.....	80 00
Fuel.....	130 00
Rent.....	350 00
Stationery.....	100 00
Books.....	50 00
Contingents.....	150 00
Grand total.....	4,630 00

CHARLES HENRY DAVIS,

Commander, Superintendent Nautical Almanac.

CAMBRIDGE, October 20, 1854.

RECAPITULATION.

Civil.

Office of the Secretary of the Navy—

Salaries	\$29,296
Contingent	2,840

Southwest Executive Building—

Salaries	2,650
Contingent	3,865

Navy.

Pay of the navy	458,550
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Special.

Transportation of the mail.....	1,408,850
Nautical Almanac.....	20,880

BUREAU OF ORDNANCE AND HYDROGRAPHY,

September 16, 1854.

SIR: In compliance with your instructions of the 11th ultimo, I have the honor to present herewith estimates of the amounts which it is supposed will be required to meet the wants of the service during the fiscal year ending June 30, 1856, for objects connected with the armaments of vessels of the navy, with the Naval Observatory, and with the Naval Academy.

The causes which call for the large excess for ordnance and ordnance supplies beyond the appropriation that was made for the present year, are briefly stated in immediate connexion with the estimate; and I have only to add, that the wants of the current service, and the proposed armaments for the six new vessels, cannot, in my opinion, be properly supplied for a less sum than is asked.

During the past fiscal year attention has been given to the preservation of the ordnance and of the shot and shells at the different navy yards; and partial arrangements have been made in the navy yards at Boston and Norfolk for the separate, safe, and more convenient arrangement of other ordnance stores, and for articles belonging to hydrography; and at the navy yard at Washington, for the preparation of shells, boat and field guns, and of articles of ordnance equipment, which require great accuracy of dimensions, or unusual care in their fabrication.

An extension of the means for the proper preparation and preservation of ordnance equipments and stores is still required at Boston and Norfolk, and more especially at New York. Plans and estimates for these, and for objects of permanent improvement at other yards, have been submitted to the Bureau of Yards and Docks, which is charged with the superintendence of all objects of that kind.

The superintendent of the observatory has briefly explained the reasons for the excess of the estimate for ordinary purposes over the appropriation for the present year, and his explanations are appended to the estimate. The estimate for an iron fence, to replace the old and defective wooden one, is again presented from a conviction of its importance to the proper security of the property within the enclosures.

The duties at the observatory have been attended to with the care which their importance requires. Nautical and meteorological instruments, of improved quality, have been engaged, and some of them have been received for, and distributed to, our vessels, with the necessary instructions for collecting more accurate and a greater amount of meteorological information.

The various charts which have been prepared and published, under the direction of the superintendent, for exhibiting the prevailing winds, currents, and other objects of interest to navigation, and the sailing directions which are connected with them, have been much sought for and widely distributed. The only condition required from those who receive them is, the return to the observatory of abstracts properly filled, which are furnished in blank, with the charts or directions.

The extension of the grounds at the Naval Academy requires the

proposed expenditures to complete the sea-wall for securing the extended water-front, and for reducing the inequalities of the surface, to render it available for desired uses.

The increased number of students requires additional instructors, and quarters for their accommodation.

The results of the course of instruction and of discipline at the Naval Academy continue to be highly satisfactory. The class which graduated in June last was the first which has enjoyed the advantages of the full course of studies as now established. The proficiency of this graduating class in all the studies, and especially in a knowledge of the details of practical seamanship, gunnery, and navigation, received high commendation from the Board of Examiners, and the progress made by other classes also received their commendation.

The practice-ship has just returned from the summer's cruise, in which the students who were embarked have had an opportunity to visit the naval establishments at Plymouth and Portsmouth, in England, and Cherbourg and Brest, in France, besides taking part in all the practical details of working and navigating the ship, and of exercising at quarters and target-firing at sea.

With much respect, I am, sir, your obedient servant,

C. MORRIS, *Chief of Bureau.*

Hon. J. C. DOBBIN,

Secretary of the Navy.

Summary of the estimates from the Bureau of Ordnance and Hydrography for the fiscal year ending June 30, 1856.

For what object.	Amount estimated for the year ending June 30, 1856.	Amount appropriated for the year ending June 30, 1855.
A.—For pay and contingent expenses of the bureau.....	\$13,066 00	\$13,066 00
B.—For pay of officers on ordnance duty.....	20,700 00	20,700 00
C.—For ordnance and ordnance stores.....	540,000 00	200,000 00
F.—For the purchase of articles, and incidental expenses connected with the hydrographical office and Naval Observatory.	69,910 00	57,760 00
G.—For the pay of superintendent and officers on duty at the hydrographical office and Naval Observatory.	36,200 00	39,200 00
H.—For the erection, repair, &c., of buildings, and for contingent expenses of the Naval Academy.	57,044 22	41,678 00
I.—For pay of officers, &c., at the Naval Academy.....	91,944 00	87,205 00
Total.....	828,864 22	459,609 00

D.—Statement of value of stores on hand, and values received and expended, from July 1, 1853, to June 30, 1854.

E.—Statement of amount and cost of labor from July 1, 1853, to June 30, 1854.

J.—Statement of contracts for year ending June 30, 1854.

K.—Scales of offers to furnish timber, &c., during the year ending June 30, 1854.

C. MORRIS, *Chief of Bureau.*

BUREAU OF ORDNANCE AND HYDROGRAPHY, *September 16, 1854.*

A.

Estimate of the amount required for the support of the Bureau of Ordnance and Hydrography, for the year ending June 30, 1856.

For salary of chief of bureau, per act of August 31, 1842, vol. 5, section 3, page 579	\$3,500 00
For salary of one fourth-class clerk, per act of March 3, 1853, pamphlet edition of Laws, section 3, page 211 ..	1,800 00
For salary of four second-class clerks, including draughtsman, per act of March 3, 1853, pamphlet edition of Laws, section 3, page 211, and act of April 22, 1854, pamphlet edition	5,600 00
For salary of messenger, per act of August 31, 1842, vol. 5, section 6, page 580, and acts of April 22 and August 4, 1854, pamphlet edition of Laws.....	840 00
For wages of one laborer, per act of August 4, 1854, pamphlet edition of Laws, including twenty per cent. allowed by decision of Treasury Department under same act	576 00
	<u>12,316 00</u>
Appropriated for year ending June 30, 1855.....	<u>\$12,316 00</u>
CONTINGENT EXPENSES.	
For blank books and stationery.....	\$500 00
For miscellaneous items	250 00
	<u>750 00</u>
Appropriated for year ending June 30, 1855	<u>\$750 00</u>

C. MORRIS, Chief of Bureau.

BUREAU OF ORDNANCE AND HYDROGRAPHY,
September 16, 1854.

B.

Estimate of pay required for officers proposed to be employed on ordnance duty, for the year ending June 30, 1856.

One captain as inspector.....	\$3,500 00
Two commanders, as assistant inspectors.....	4,200 00
One lieutenant, as assistant inspector, charged with experiments in gunnery at the Washington navy yard ...	2,500 00
Seven lieutenants, at \$1,500.....	10,500 00
	20,700 00
Appropriated for year ending June 30, 1855	\$20,700 00

C. MORRIS, *Chief of Bureau.*

BUREAU OF ORDNANCE AND HYDROGRAPHY,
September 16, 1854.

C.

Estimate of the amounts that will probably be required for ordnance and ordnance stores, for labor, and for contingent expenses, for the fiscal year ending June 30, 1856.

For guns of new patterns and sizes, for the armament of the six propeller frigates now in course of construction.	\$106,000
For gun-carriages and their equipments, and for purchase of gun-carriage timber for future use.....	115,000
For shells, and for fitting the same for service	95,000
For boat and field guns and ammunition.....	32,000
For powder-tanks	14,000
For gunpowder	28,000
For small-arms, swords, pikes and battle-axes, sights, locks, cartridge stuff, and for laboratory stores, and other small articles	75,000
For labor in fitting and putting in place articles of ordnance equipments; for receiving, examining and repairing the same; and for the preservation of guns, shot, shells, and other articles	50,000
For printing, advertising, and all other contingent expenses.	25,000
Total amount of estimate	540,000
Amount appropriated for 1854-'55	200,000
Excess for 1855-'56	340,000

It having been decided that the vessels now under construction shall be armed on their gun-decks with guns of heavier calibres than have heretofore been thus used, it is necessary that, besides the number of guns required for this purpose, there should also be provided new carriages, and all the various projectiles which are to be used with the new classes of guns, and powder-tanks for stowage of their cartridges, besides the current wants of the service for cruising vessels.

Improvements have been made in small-arms which give them greater range and accuracy of fire, and it is desirable that means should be afforded for securing these advantages for the navy either by the purchase of new arms, or by altering those now on hand when practicable.

Our supply of boat and field guns is not sufficient to meet the wants of the present limited force employed, and it is desirable to supply this deficiency.

The average annual cost of labor for the last three years has been \$120,852 for all ordnance purposes. It will no doubt be greater the next year, when so many new articles are to be received and prepared; and after deducting what will probably be included in the estimated cost of articles, the amount required for other purposes cannot safely be assumed at less than \$50,000, which is stated in the estimate.

C. MORRIS, *Chief of Bureau.*

BUREAU OF ORDNANCE AND HYDROGRAPHY,

September 16, 1854.

D.

Statement of cost, or estimated value, of stores on hand at the several navy yards, July 1, 1853, of articles received and expended, from June 30, 1853, to June 30, 1854; and of those remaining on hand July 1, 1854, which are under the direction of the Bureau of Ordnance and Hydrography.

Navy yards.	On hand July 1, 1853.	Receipts.	Expenditures.	On hand July 1, 1854.
Portsmouth	\$91,754 36	\$717 42	\$1,575 81	90,895 97
Boston	513,667 56	106,618 78	107,994 17	512,292 17
New York	599,293 51	115,363 93	120,865 07	593,794 37
Philadelphia.....	35,893 20	12,006 19	10,772 86	37,126 53
Washington.....	144,533 88	97,776 64	85,683 88	156,626 64
Norfolk	501,426 78	85,621 05	106,850 70	480,197 13
Pensacola	138,222 90	1 60	1,403 01	136,821 49
Memphis	2,695 48	26 00	26 00	2,695 48
On the lakes.....	38,746 48	.....	.....	38,746 48
Total.....	2,066,234 15	418,131,61	435,171 50	2,049,194 26

C. MORRIS,
Chief of Bureau.

BUREAU OF ORDNANCE AND HYDROGRAPHY,
September 16, 1854.

E.

Statement of the number of days labor, and cost thereof, from July 1, 1853, to July 1, 1854, at the respective navy yards, chargeable to the Bureau of Ordnance and Hydrography.

Navy yards.	No. of days' labor.	Cost of labor.	Average per day.
Portsmouth.....	384½	\$664 43	\$1 72
Boston.....	8,467	15,204 59	1 89
New York.....	15,231½	26,415 25	1 73½
Philadelphia.....	836	1,502 76	1 80
Washington.....	34,222	55,541 24	1 62
Norfolk.....	18,698	31,492 39	1 68
Pensacola.....	299½	546 08	1 81
Memphis.....			
Total.....	78,138½	131,366 74	1 68

C. MORRIS,
Chief of Bureau

BUREAU OF ORDNANCE AND HYDROGRAPHY,
September 16, 1854.

F.

Estimate of the amount required for the Hydrographical Office and United States Naval Observatory, for the year ending June 30, 1856.

For the purchase of nautical instruments required for the use of the navy, for the repairs of the same, and also of astronomical instruments; and for the purchase of nautical books, maps, and charts, and for backing and binding the same.....	\$23,000 00
For printing and publishing sailing directions, hydrographical surveys, and astronomical observations.....	10,000 00
For continuing the publication of the series of wind and current charts, and for defraying all the expenses connected therewith.....	18,000 00
For models, drawings, and copying; for postage, freight, and transportation; for working lithographic press, including chemicals; for keeping grounds in order; for fuel and lights, and for all other contingent expenses of the hydrographical office and United States Naval Observatory.....	7,600 00

ESTIMATE—Continued.

For the wages of persons employed at the observatory and hydrographical office, viz: one lithographer, one instrument maker, one porter and two watchmen.....	\$3,160 00
For wrought-iron fence for the north side of the enclosure of the observatory.....	8,150 00
	69,910 00
Amount appropriated for the year ending June 30, 1855, including \$10,000 in the deficiency bill for wind and current charts, &c., &c.....	57,760 00
Excess of estimates for 1855-'56 over the appropriations for 1854-'55.....	<u>\$12,150 00</u>
<i>Causes of excess.</i>	
Addition for printing and publishing sailing directions.....	\$4,500
Addition for models, drawings, contingent expenses, &c., &c.....	1,500
Addition for iron fence for north side of enclosure.	8,150
	14,150
Deduct amount estimated less than was appropriated, including that for deficiency for wind and current charts for 1854-'55.....	2,000
	\$12,150 00

Extract from the letter of the Superintendent of the Observatory, which accompanied the estimates.

"You will observe that the ordinary estimates for the year ending June 30, 1856, call for more than did the estimates for the current year. This difference is principally in the items for the wind and current charts, and purchase of nautical instruments, made necessary by an extraordinary demand for both, in consequence of a more extensive system of observations which has been authorized, and the necessity of nicer instruments, which the regulations of the navy call for."

C. MORRIS, *Chief of Bureau.*

BUREAU OF ORDNANCE AND HYDROGRAPHY,

September 16, 1854.

G.

Estimate of the amount required for the pay of officers and others proposed for duty at the Hydrographical Office and United States Naval Observatory, for the year ending June 30, 1856, chargeable to the general appropriation for the "pay of the navy."

One lieutenant as superintendent.....	\$3,000 00
Ten lieutenants, at \$1,500 each.....	15,000 00
Eight passed midshipmen, at \$750 each.....	6,000 00
Six professors of mathematics, at \$1,500 each.....	9,000 00
One assistant observer, (civil,) at \$2,000.....	2,000 00
One clerk, (civil,) at \$1,200.....	1,200 00
	36,200 00
Appropriated for year ending June 30, 1855.....	\$39,200 00

The reduction in this estimate is caused by employing only six, instead of eight, professors of mathematics.

C. MORRIS, *Chief of Bureau.*

BUREAU OF ORDNANCE AND HYDROGRAPHY,

September 16, 1854.

H.

Estimate of the amount required for the erection and repairs of buildings, for the improvement and preservation of the grounds, and for contingencies at the Naval Academy, for the fiscal year ending June 30, 1856.

One house for a professor and the assistant to executive officer, (one block).....	\$9,000 00
Necessary additions and repairs to the works for heating the buildings of the establishment.....	2,500 00
Continuing the sea-wall along the northern water front of the Academy grounds, grading, draining, and filling in low grounds, and for keeping the grounds in order.....	23,000 00
Repairs of all buildings, &c., &c.....	5,000 00
	39,500 00

REPORT OF THE
ESTIMATE—Continued.

<i>For the wages of the following persons, viz :</i>	
Assistant librarian	\$500 00
Six watchmen, at \$1 37½ per day each.	3,011 22
One messenger	250 00
One attendant at recitation hall, at \$18 per month.....	216 00
One attendant at chemical laboratories, at \$18 per month	216 00
One attendant at the library building, and at the observatory and chapel, at \$18 per month.....	216 00
One attendant at gas and heating apparatus, at \$1 75 per day.....	638 75
One attendant at gas and heating apparatus, at \$1 25 per day.....	456 25
Ten laborers to attend and keep in order midshipmen's quarters and public grounds.....	1,640 00
	7,144 22
<i>Contingent expenses.</i>	
For materials for heating and lighting the establishment.	\$3,500 00
Purchase of books for library.....	2,000 00
Stationery, blank books, and forms.....	500 00
Furniture and fixtures for public buildings.....	3,000 00
Incidental repairs and expenses in the astronomical department.....	200 00
Incidental repairs and expenses in the philosophical department.....	200 00
All other incidental expenses, freight, &c.....	1,000 00
	10,400 00
Total amount required for Naval Academy for year ending June 30, 1856.....	\$57,044 22
Total amount appropriated for Naval Academy for year ending June 30, 1855, including \$2,000 for planetarium	41,678 00
Excess of estimates for 1855-'56, over the appropriations for 1854-'55.....	15,366 22

The increase for "wages" in the present estimate over that which was presented for the present year, has been rendered necessary by the general increase of the price of labor of all kinds.

The amount asked under the head of "contingent expenses" is less than was asked for the present year.

The amount asked for permanent improvements is larger than was estimated for the present year. The objects proposed are, however, deemed of sufficient importance to require early attention. The seawall, and filling in, and levelling the grounds, are important to give due protection to some of the buildings.

The proposed house is required for the accommodation of officers attached for duty; and the arrangements for duly and properly heating the rooms of the students, and the recitation and other halls, require considerable extension.

In so large an establishment, provision for repairs is indispensable.

C. MORRIS, *Chief of Bureau.*

BUREAU OF ORDNANCE AND HYDROGRAPHY,

September 16, 1854.

Estimate for a block of one officer's and one professor's house.

25,410 feet of joist and scantling	\$508 00	
10,000 feet of flooring	500 00	
10,000 feet of one-inch cullings	250 00	
10,000 feet of one and two inch plank.....	550 00	
		\$1,808 00
Carpenter's work		1,899 00

Hardware.

Sixty door-locks, 60 pair 4 × 4 butt hinges, 76 pair parliament hinges, 38 sets shutter-fastenings, 96 Oscar's pulleys, 50 pounds of brads, 20 pounds of sash-cord, 20 pounds of glue, 500 pounds of sash-weight, 1,000 pounds of nails.....	300 00
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Painting.

White-lead, oil, and turpentine	\$143 00	
Glass	50 00	
Workmanship	207 00	
		400 00
Marble mantels.....		125 00
Slating		400 00
Tin roof and spouting		120 00
Stone sills and lintels		250 00
47 perches of stone.....	94 00	
75,000 red brick	675 00	
100,000 run of the kiln	750 00	
50,000 laths	175 00	

125 bushels of hair.....	\$34 25	
600 pounds of nails	35 00	
973 bushels of lime	437 88	
4,500 bushels of sand	157 50	
		\$2,358 63
Laborer's and carter's work		250 00
Laying 175,000 brick		555 00
Plastering 2,800 yards		360 00
Two sets of granite steps		175 00
		9,000 63

I.

Estimate of the amount required for the pay of officers and others proposed for duty at the Naval Academy for the year ending June 30, 1856.

For superintendent, (commander).....	\$2,500 00
For commandant of midshipmen, (commander).....	2,500 00
Assistant to ditto, as instructor of seamanship, gunnery, and naval tactics, (lieutenant).....	1,500 00
Assistant to commandant of midshipmen for police duties, (master).....	1,000 00
One surgeon.....	2,250 00
One chaplain.....	1,500 00
One professor of astronomy, navigation, and nautical sur- veying.....	1,500 00
One professor of mathematics.....	1,500 00
One professor of field artillery and infantry tactics.....	1,500 00
One professor of natural and experimental philosophy.....	1,500 00
One professor of English studies.....	1,500 00
One professor of the French language.....	1,500 00
One professor of the Spanish language.....	1,500 00
One professor of drawing, and teacher of art of defence..	1,500 00
Three assistant professors of mathematics, (acting mas- ters,) \$1,000 each.....	3,000 00
Two assistant professors of English studies, \$1,000 each.	2,000 00
One assistant professor of natural and experimental phi- losophy.....	1,000 00
One assistant professor of French.....	1,000 00
One assistant professor of Spanish.....	1,000 00
One secretary.....	1,250 00
One clerk to superintendent.....	500 00
One clerk to the purser	500 00
One carpenter.....	840 00
One hundred and fifty acting midshipmen as students, at \$350 each	52,500 00
One gunner's mate.....	300 00

ESMIMATE—Continued.

One hospital steward	\$360 00
One coxswain to attend to the boats.....	288 00
One steward for midshipmen's mess.....	288 00
One cook for midshipmen's mess	216 00
One seaman to assist gunner's mate.....	217 00
One ordinary seaman, attendant at hospital.....	193 00
One master of the band.....	312 00
Six musicians of the first class.....	1,512 00
Five musicians of the second class.....	1,080 00
	91,606 00
One drummer and one fifer, payable from the appropriation for the marine corps.....	338 00
	91,944 00
Amount appropriated for year ending June 30, 1855.....	87,205 00
Excess of 1855-'56 over 1854-'55	4,739 00
<i>Causes of excess.</i>	
Increase for length of service to surgeon.....	\$250 00
Addition of ten to number of midshipmen, at \$350 each.....	3,500 00
Addition of clerk to purser, before allowed, but not included in estimates.....	500 00
Increase for length of service to carpenter.....	140 00
Increase to master of band.....	24 00
Increase to six musicians, first class.....	210 00
Increase to five musicians, second class.....	115 00
	\$4,739 00

C. MORRIS, *Chief of Bureau.*BUREAU OF ORDNANCE AND HYDROGRAPHY,
September 16, 1854.

J.

Statement of contracts entered into by the Bureau of Ordnance and Hydrography during the year ending June 30, 1854.

Names of contractors.	Articles contracted for.	Place of delivery.	Date of contract.	Expiration of contract.	Price.	Amount of contract.
Franck Taylor, (agreement). H. S. Ward.....	Quills Gun-carriage timber.....	Washington Charlestown and Brooklyn	July 1, 1853 Sept. 1, 1853	July 1, 1854.....do.....	\$4 75 per M..... \$55 per M at Charles- town; \$48 at Brook- lyn.	\$4,750 00 9,460 75
S. C. Herbert..... Andrew Lunt..... James Bigler..... E. J. du Pont, de Nemours & Co.	Gun-carriage timber..... Handspikes Handspikes Powder, cannon, and musket..	Gosport..... Charlestown..... Brooklyn and Gosport... Kittery, Charlestown, and Brooklyn.	Sept. 5, 1853 Sept. 7, 1853 Sept. 16, 1853 May 9, 1854	do..... .....do..... .....do..... Nov. 1, 1854	\$50 per M feet..... 60 cents each..... 50 cents each..... 16 cents per pound....	4,592 60 300 00 500 00 16,000 00
Loomis, Swift & Masters.... J. P. Garesché..... D. Eggert & Son Extension of contract }	Powder, cannon, and musket.. Powder, cannon, and musket.. Rating chronometers.....	Warrington Gosport..... Brooklyn	May 11, 1854 May 16, 1854 June 26, 1854	do..... .....do..... June 26, 1855	16½ cents per pound... 15 cents per pound....	16,500 00 15,000 00

C. MORRIS, Chief of Bureau.

BUREAU OF ORDNANCE AND HYDROGRAPHY, September 16 1854.

K.

Scale of offers to furnish timber under the advertisement of the Bureau of Ordnance and Hydrography, dated July 22, 1853, to be delivered at the navy yards at Charlestown, Mass., Brooklyn, New York, and Gosport, Virginia, on or before the first day of July, 1854; opened in presence of J. P. McCorkle and E. M. Tidball, on the 23d day of August, 1853.

AT CHARLESTOWN, MASSACHUSETTS.

About 91,852 feet (board measure) of white oak timber for axletrees, brackets, and transoms, and 500 hickory handspikes.

No. of offer.	Names of bidders.	Price per 1,000 feet for white oak, and price for each handspike.	Total amount.		Remarks.
			For white oak.	For handspikes.	
*2	Stephen Munson, Washington, D. C.—				} Informal; no certificate to guarantors.
	For white oak.....	\$69 00	\$6,337 78	.....	
	For handspikes.....	50	.....	\$250 00	
*2	Andrew Lunt, Boston—				
	For white oak.....	90 00	8,266 68	.....	
	For handspikes.....	60	.....	300 00	
3	Washburn & Bliss, Boston—				} Informal; no guarantee.
	For white oak.....	55 00	5,051 86	.....	
	For handspikes.....	37½	.....	187 50	
4	W. B. Sorey, Norfolk—				
	For white oak.....	80 00	7,348 16	.....	
	For handspikes.....	1 00	.....	500 00	
*5	H. S. Ward, New York—				
	For white oak.....	55 00	5,051 86	.....	
	For handspikes.....	1 00	.....	500 00	
6	James Bigler, Newburgh, N. Y.—				
	For white oak.....	65 00	5,970 38	.....	
	For handspikes.....	60	.....	300 00	
7	Samuel B. Grice, Philadelphia—				
	For white oak.....	140 00	12,759 28	.....	
	For handspikes.....	10 00	.....	5,000 00	

* Accepted.

Offer No. 5, H. S. Ward, being the lowest offer for white oak timber, according to terms of advertisement, is accepted. The lowest regular offers for handspikes being No. 2, by Andrew Lunt, and No. 6, by James Bigler, and these being equal, were decided by lot in favor of No. 2, Andrew Lunt.

C. MORRIS, *Chief of the Bureau.*

BUREAU OF ORDNANCE AND HYDROGRAPHY, August 30, 1853.

K—Continued.

AT BROOKLYN, NEW YORK.

About 91,852 feet (board measure) of white oak timber for axletrees, brackets, and transoms, and 500 hickory handspikes.

No. of offer.	Names of bidders.	Price per 1,000 feet for white oak, and price for each handspike.	Total amount.		Remarks.
			For white oak.	For handspikes.	
1	S. Munson, Washington—				
	For white oak.....	\$69 00	\$6,337 78	-----	} Informal; no certificate to guarantors.
	For handspikes.....	50	-----	\$250 00	
8	W. B. Sorey, Norfolk—				
	For white oak.....	80 00	7,348 16	-----	
	For handspikes.....	1 00	-----	500 00	
*9	H. S. Ward, New York—				
	For white oak.....	48 00	4,408 89	-----	
	For handspikes.....	80	-----	400 00	
10	J. A. S. Crater, Port Mercer, N. J.—				
	For white oak.....	40 00	3,674 08	-----	} Informal; no certificate to guarantors.
	For handspikes.....	14	-----	70 00	
*11	James Bigler, Newburgh, N. Y.—				
	For white oak.....	59 00	5,419 26	-----	
	For handspikes.....	50	-----	250 00	
12	Houston Hall, Milton, Delaware—				
	For white oak.....	80 00	7,348 16	-----	} Informal; no certificate to guarantors.
	For handspikes.....	75	-----	375 00	

* Accepted.

Offer No. 10, being informal according to the terms of advertisement, and the navy agent, New York, having been requested by letter of the 23d August, 1853, to ascertain the sufficiency of the sureties offered, and he not having certified anything in relation to them up to the 30th August, 1853, No. 9, by H. S. Ward, the lowest regular offer, is accepted for the white oak timber, and offer No. 11, of James Bigler, is accepted for the handspikes.

C. MORRIS, *Chief of the Bureau.*

BUREAU OF ORDNANCE AND HYDROGRAPHY, August 30, 1853.

K—Continued.

AT GOSPORT, VIRGINIA.

About 91,852 feet (board measure) of white oak timber for axletrees, brackets, and transoms, and 500 hickory handspikes.

No of offer.	Names of bidders.	Price per 1,000 feet for white oak, and price for each handspike.	Total amount.		Remarks.
			For white oak.	For handspikes.	
1	S. Munson, Washington— For white oak.....	\$69 00	\$6,337 78	.....	} Informal; no certificate to guarantors.
	For handspikes.....	50	.....	\$250 00	
13	W. H. Dunkinson, Washington— For white oak.....	50 00	4,592 60	.....	} Informal; offer not signed by bidder. See bid & decision.
	For handspikes.....	No bid.	.....	.....	
14	W. B Sorey, Norfolk— For white oak.....	65 00	5,970 38	.....	
	For handspikes.....	1 00	.....	500 00	
15	W. C. Burroughs, Kempsville, Va.— For white oak.....	74 00	6,797 04	.....	
	For handspikes.....	50	.....	250 00	
16	Samuel B. Grice, Philadelphia— For white oak.....	140 00	12,859 28	.....	
	For handspikes.....	10 00	.....	5,000 00	
*17	James Bigler, Newburgh, N. Y.— For white oak.....	59 00	5,419 26	.....	
	For handspikes.....	50	.....	250 00	
*18	S. C. Herbert, Portsmouth, Va.— For white oak.....	50 00	4,592 60	.....	
	For handspikes.....	No bid.	.....	.....	
19	Samuel B. Grice, Philadelphia— For white oak.....	140 00	12,859 28	.....	} Informal; offers for Washington, where the timber is not required.
	For handspikes.....	9 50	.....	4,750 00	

* Accepted.

Offer No. 13 having been referred to the Secretary of the Navy, he verbally authorized the bid to be considered, as the guarantors bind themselves that a certain person, named by them, shall execute a contract for the articles required in case his bid should be accepted. This bid being equal to that of No. 18, they were decided by lot in favor of No. 18, S. C. Herbert, and his offer is therefore accepted for the white oak timber. No. 15, W. C. Burroughs and No. 17, James Bigler, being equal for the handspikes, they were decided by lot in favor of No. 17, James Bigler, whose offer is therefore accepted for the handspikes.

C. MORRIS, *Chief of the Bureau*

BUREAU OF ORDNANCE AND HYDROGRAPHY, August 30, 1853.

BUREAU OF YARDS AND DOCKS,

November 1, 1854.

SIR: I have the honor to submit, in compliance with your order of the 11th August last, a report of the progress made in the improvements at the several navy yards, &c., during the fiscal year ending June 30, 1854, with estimates for such improvements, repairs, and current expenses, as are considered necessary at the several navy yards, hospitals, naval asylum, magazines and dry docks, for the next fiscal year, ending June 30, 1856.

The estimates for magazines and accommodations for ordnance and ordnance appendages and stores, have been prepared by the Bureau of Ordnance.

I trust the reasons stated will be sufficient to justify the appropriations asked for, which, though they may appear large in the aggregate, have been reduced to objects deemed absolutely necessary. Commencing with—

PORTSMOUTH, N. H.

During the fiscal year ending 30th June, 1854, the following works of improvement have been completed, viz: Timber-shed No. 29; foundations for shoring at railway; walls west of timber-sheds Nos. 6 and 7, and filling in the same; filling in around walls of dock-basin; reservoir for engine-house, pipes, gutters, drains and cisterns, and grading yard to the extent of the appropriation. These works have all been completed within the amount of the estimates, except the filling around the dock-basin, which has exceeded the original estimate by \$618 04, probably owing to a greater amount of settlement in the new filling than was anticipated. The total amount expended upon these objects during the fiscal year is \$24,668 90.

The other works which have been in progress during the past year, and which are not yet completed, are wharf and filling in east of No. 4, engine-house, cooper's shop and watchmen's quarters, dredging in front of basin and puddling, boiler-room, boilers, engine and machinery for engine-house, pavements around timber-sheds, quay wall north of basin and filling in the same, drains, gutters, and paving, pitch-house, repairs of ship-house S, and repairs of all kinds. These works have all progressed in a satisfactory manner, and the total amount expended upon them during the past fiscal year is \$45,471 76.

Estimates and plans are submitted for the next fiscal year, for the following objects, viz: For completing cooper's shop and watchmen's quarters, dredging in front of basin, dock-basin, offices and muster-room, sewer and drainage, removing ledge, paving, flue boiler at smithery, repairs of floating dock, and for repairs of all kinds, amounting in the aggregate to the sum of \$89,258. Some of these objects are well advanced towards completion, and all of them are deemed highly necessary for the protection and preservation of the public property, and the expeditious and economical performance of the general work of a navy yard. The cooper's shop and watchmen's quarters will cost \$600 more

than the original estimates, owing to the increased cost of materials and labor. In dredging in front of the dock-basin, a ledge was encountered, which will probably increase the cost of that work to some \$5,000 beyond the original estimate.

BOSTON.

The works which have been completed at this yard during the year ending June 30, 1854, are, muster-office, paving, timber-shed No. 31, and the pitch-house and oakum-loft. There has been expended upon these objects during the fiscal year the sum of \$3,835 65; the cost of the muster-office has exceeded the original estimate by \$1,825 09, in consequence of the increased cost of materials and labor, and the cost of the pitch-house and oakum-loft has exceeded the original estimate by \$1,163 70, owing to unexpected difficulties in procuring a proper foundation. The other works which have been in progress during the year are, the cooperage and packing-house, stone wall west of timber-dock, rebuilding battery and planking south wharf, and repairs of all kinds, and upon these objects there has been expended the sum of \$11,486 17.

Plans and estimates are submitted for the fiscal year ending 30th June, 1856, for removing and altering coal-house at smithery, stone wall north side of timber-dock and filling area around machine-shop and smithery, copper and iron store and paint-shop; to complete cooperage and packing-house, rebuilding dock-engine boiler-house, paving area around dry dock, paving between timber-sheds Nos. 31 and 33, gas fixtures for the yard, offices, and houses, extension of city sewer to seawall, finishing coal-house at ropewalk, machinery for machine-shop, smithery, &c., steam-engine and pump for rope-walk, oakum picker, and for repairs of all kinds; amounting in the aggregate to the sum of \$226,900. These objects are all of much importance, and cannot well be dispensed with at this important station.

NEW YORK.

At this yard, the sewer, cob-wharf, and dredging, saw-mill, commander's house, muster-office, and water-tank and lighter, have been completed during the fiscal year ending 30th June, 1854. Except in the last item, the actual cost of these works has greatly exceeded the original estimates, owing partly to the increase in the cost of materials and labor, but principally to the insufficiency of the estimates; the sewer may require further extension. The amount expended on these objects during the fiscal year is \$87,910 65. The other works which have been in progress during the past year are, skids for cannon, and platforms for shot, quay wall, paving and flagging, machinery for engine-house, smithery, timber-shed, lime, pitch and coal house, engine-house and fixtures, filling in ponds and low places, and repairs of all kinds. Upon these objects there has been expended during the fiscal year ending 30th June, 1854, the sum of \$152,240 69.

Estimates are submitted for the fiscal year ending June 30, 1856, or extension of smithery; machinery for smithery; carpenter's shop;

oakum shop; quay wall; paving and flagging; dredging channels; timber and knee slip; dry-dock pavement; filling in low places, and grading; filling new purchase; and for repairs of all kinds; amounting to the sum of \$381,000. These objects are all highly necessary. Some of them are now in progress, and the amount already expended upon them will be unproductive of benefit to the service until the improvements are completed. This yard is much cramped for want of working room, and therefore the filling in of a part of the new ground is very important for sites for buildings, as well as for marine barracks.

PHILADELPHIA.

The new steam-hammer and mooring anchors for the floating dock have been purchased and put in use during the past fiscal year, at a cost of \$2,140 26; both works being completed within the original estimate. Other works in progress, but not completed, are wharf No. 4; dredging channel for use of dry-dock; paving; and repairs of all kinds. The amount expended on these objects during the past year is \$32,418 86, and the progress has been satisfactory.

Estimates are submitted for the fiscal year ending June 30, 1856, for adding fifty feet to ship-house F; new roof to same; to ship-house G also; completing wharf No. 4; dredging channels; repairs of dry-dock; and for repairs of all kinds; amounting to the sum of \$66,700.

The extension and repairs to the ship-house, and repairs to the floating dock, are the items which make up the principal part of the amount asked for; and a due regard to the proper protection and preservation of these costly structures, renders the appropriation absolutely necessary. I beg to call your attention to the importance of extending this yard, so that the United States may use the dock on the south side of the basin.

WASHINGTON.

The only work of improvement completed at this yard during the past fiscal year is the ordnance building, which is now used entirely for ordnance purposes.

There has been expended during the year \$19,474 73, and the cost of this building has exceeded the amount of the estimate in the sum of \$10,037 41, which excess has been caused partly by the difficulty in obtaining sufficient foundations, and partly by the great increase in the cost of all building materials and labor since the estimates were made. The other works which have been in progress during the past year, but which are not yet completed, are the large slide-lathes; filling in timber-dock; saw-mill; marine railway; extension of boiler shop; conversion of old ordnance to machine shop; steam-engines, &c., for ordnance shop; ordnance foundry; quay wall; and repairs of all kinds; and upon these different objects there has been expended, during the year, the sum of \$118,469 21. The progress upon these objects during the year has been satisfactory. Several of the improvements are well advanced towards completion, and before the expiration of another year, will be brought into profitable use.

Estimates and plans are submitted for the fiscal year ending June 30, 1856, for refunding the amount borrowed from machinery for ordnance building; completing cradle for railway; extension of boiler shop; conversion of ordnance to machine shop; forge shop for new steam-hammer for forging heavy shafts; shoring-ways in ship-house F for new frigate; lining walls of slip; wall west side of yard; pavements, drains, and gutters; grading and filling low places; enlarging brass foundry by raising roof; fire-engine house; dredging channels; reservoir for water; and for repairs of all kinds; amounting to \$198,566.

Some of these items, it will be observed, are for the continuation and completion of works in progress; others are for objects which are highly necessary to render other works available and useful; and all are deemed of much importance—the interests of the service requiring that they should be completed as soon as possible.

NORFOLK.

At this yard the culvert for draining the low grounds, the dredging-machine, hauling-up slips and scows, and the new magazine, excepting racks for stowing powder, have been completed during the fiscal year ending June 30, 1854, and upon these objects there has been expended, during the year, the sum of \$33,122 42. The first three of these objects have been completed within the amount of the original estimates. The cost of the last has exceeded the original estimate, in consequence of the adoption of a more perfect and permanent mode of construction and enlarged accommodations. The present building is capacious, convenient, and substantial, and probably equal to any structure of the kind in the country; and although the cost has been greater than was anticipated, it is believed that the work has been well conducted, and that the building is in every respect far superior to that originally contemplated. The other works which have been in progress during the past year, are the extension of quay walls; storehouse No. 14; timber-dock; machinery in engine-house; machine and armorer's shop; dredging channels; filling in low grounds, and grading; temporary shed over slip No. 48; and repairs of all kinds; upon which there has been expended the sum of \$102,398 47.

The progress made upon these works has been highly satisfactory. Some of them are nearly completed, and all will add greatly to the facilities for meeting the demands of the service at this important station.

Estimates with plans are submitted for the next fiscal year for the continuation of quay wall, reservoirs for rain-water, dredging channels, foundry, steam-engine at dry dock, carpenter's work-shop, rail-tracks and cars at St. Helena, scows, landing cranes and derricks, cart-shed, lime and cement storehouse, two steam-boxes and boilers, pitch-house, and repairs of all kinds, amounting in the aggregate to the sum of \$243,158. These works are all of much importance, highly necessary, and their construction cannot be too speedily accomplished.

PENSACOLA.

At this yard, the naval magazine, ice-house, paint-shop, and cooperage No. 33, have been completed during the past fiscal year, and the amount expended upon them during the year is \$13,221 25.

The first of these works has cost \$1,769 50 over the original estimate, owing to the insufficiency of that estimate; the second and third have been completed within the estimates, and the cost of the last has exceeded the estimate in the sum of \$7,512 51. The reasons for this excess are, an extra and unexpected expense upon the foundation, an advance in the price of materials and labor, and the fact that the original estimate was too low. Other objects which have been in progress during the past year, and which are not yet completed, are, permanent wharf, deep basin and dredging, smiths' and machine shop, smoke-stack and extension of machine shop, rail-tracks, rebuilding centre wharf and wharves I and C, new wall to cistern No. 26, guard-house at west gate, repairs of cisterns Nos. 14 and 25, and repairs of all kinds. Upon these works there has been expended during the fiscal year ending 30th June, 1854, the sum of \$133,634 65. The progress upon these works recently has been satisfactory, and successful results are confidently anticipated.

Estimates and plans are submitted for the fiscal year ending 30th June, 1856, for permanent wharf, deep basin and dredging, coping for basin, filling in and paving, removing sunken caisson, paint shop and cooperage, water-pipes to permanent wharf for watering ships, guard-house at west gate, shell-house, wall around shell-house, lightning-conductors, railway to spar-pond, towards a wet basin and launching-slip, steam-box, fire-engine house, and for repairs of all kinds, amounting in the aggregate to \$267,470.

These objects are all of importance, and are much needed to meet the demands of the service upon this the only station on the Gulf of Mexico. It may be well to remark here, that the wet basin and launching-slip are necessary for the construction of vessels at this yard; and should it be deemed important to urge forward the preparation of facilities for constructing ships at this yard, an appropriation should be added for the commencement of a ship-house also. What is termed the "deep basin" is an opening in the permanent wharf, the walls of which are turned in two hundred feet, to meet the shallow basin used for the reception of the dry dock. It is proposed to excavate this opening to the depth of thirty feet, for the purpose of sinking the dock to receive vessels of ordinary draught of water, as well as to make a safe place for vessels to lie at, when discharging or receiving cargoes or stores. The coping of the dock-basin referred to is nothing more nor less than raising the basin-walls to the height of the grade of the yard and the permanent wharf. By the stipulations of the contract for the dock and basin, the walls of the basin are to admit ten feet of water over the bottom of the basin, and that does not bring the top of the basin-wall up to the grade of the yard; hence the necessity of raising it the thickness of another stone, which is the coping referred to.

MEMPHIS.

At this yard, during the past fiscal year, the wing of storehouse, top-shed, railway at ropewalk, and the railing on vertical wall and stairways, have been completed, and the amount expended is \$13,318 73. The other objects of improvement upon which expenditures have been made are, excavations and embankment, cisterns for ropewalk, pave-

ments, drains, and gutters, and repairs of all kinds. The amount expended upon these objects is \$14,588 53; and there remained in the treasury unexpended on the 1st of November, 1854, funds appropriated for this yard, to the amount of \$44,148 51.

Congress, at its last session, having directed this yard to be offered to the city of Memphis as a donation, and the city having unconditionally accepted the same, no further appropriations are asked or desired by this department for a navy yard at that place.

SACKETT'S HARBOR.

The amounts appropriated for this station for the past and present fiscal year have been expended for the necessary repairs of the waterfront and preservation of the ship-house, which has a line-of-battle ship in it, and the protection of the public property. The amount estimated for the current repairs for the fiscal year ending 30th June, 1856, is \$2,000, which is necessary for the preservation of the buildings and public property generally.

SAN FRANCISCO.

During the session of Congress which terminated on the 4th of March, 1853, the sum of \$100,000 was appropriated towards the erection of a blacksmith shop, carpenter's shop, storehouse, and wharf, at this station; but in consequence of the failure on the part of the legislature of California to pass the necessary act ceding the jurisdiction over the site selected to the United States, no part of the appropriation had been expended for these works up to the 30th June, 1854. Since that period, jurisdiction having been granted to the United States, measures have been adopted by appointing both civil and military officers to take possession and establish it, and for commencing the authorized improvements. It is believed that the officers appointed to that duty will, with due regard to the public interest, urge the work forward. Already, by last advices, temporary buildings for the accommodation of some of the employés and stores had been commenced, and materials to some extent for the permanent buildings had been engaged. It is well known that structures of the kind required there are costly, and that the preparation for commencing such an establishment forms a large item of the expenses.

Estimates are submitted for the fiscal year ending 30th June, 1856, for completing storehouse, blacksmith shop, carpenter's shop, and wharf; for three houses for officers, and for repairs of all kinds; amounting to the sum of \$285,000. An estimate of \$400,000 is also submitted for the continuation of the basin and railway contracted for in pursuance of an act of Congress, making the aggregate estimate for the station \$685,000. These estimates are essential for the prompt and successful prosecution of the authorized improvements; and as this station is now without any of the conveniences necessary at a naval station, either for the accommodation of the officers, civil and naval, who should live in the yard or near it, or for the repair, refitting and equipping vessels of the navy, except the floating-dock, to place it in a proper condition to

supply the wants of the squadron in that sea, some years and much money will be consumed before it can be accomplished, however prompt and liberal the appropriations may be.

DRY DOCKS.

At Portsmouth, New Hampshire, is a balance floating dry dock, with basin and railway. This dock has twice taken up and hauled on shore upon the railway the hull of the Franklin, 74, and also taken upon the dock for repairs the steamer Fulton, whilst the Franklin was on the railway. The works were accepted in 1852. One of the objections to all these floating docks, is the great depth of water required to sink them to receive a large ship, and the difficulty of sinking them to the necessary depth to receive a vessel of large draught of water. They are designed to be worked alongside of piers or wharves, so that they may be readily controlled; hence the necessity of deepening the water by dredging and constructing piers or wharves near the basin, which must be done at considerable cost, before these structures can be conveniently and safely worked.

At Boston the dry dock is an excavated stone dock with wooden gates. This dock has been in constant use for twenty-one years, and the only repairs of any moment have been recently made upon the wooden gates, at a cost of some \$7,000. The engine which pumps out the dock has been in constant use for that time in driving other machinery, besides pumping out the dock, and now requires to be replaced by a new one.

At New York the dock is similar to that at Boston, but larger, and with iron gates. Some repairs have been put on the culvert, which at one time sprung a leak; the pressure of spring water when the dock is empty is great, and a slight but constant flow of water is permitted as being necessary for the safety of the masonry. The pumps are very powerful, and the steam used for pumping is intended to be used for some other machinery. The iron gates require occasional painting; otherwise, it is hoped this important work will last many years without requiring any material repairs.

At Philadelphia the dock is a sectional dry dock, with basin and railways. This dock has worked successfully for two and a half years, by taking up, and hauling on and off the ways, vessels of moderate draught of water, say sixteen and a half feet; and when the water shall have been deepened by dredging, it will be capable of receiving vessels of larger draught of water; and it is expected that this will be done during the present fiscal year. It has been found necessary to caulk this dock, and strengthen the frame-work of the side-floats.

At Norfolk the dock is an excavated stone dock, of the same size and form of that at Boston, and has only required repairs upon the wooden gates. It has been in use about twenty-one years, and the engine, like that at Boston, requires to be replaced by a new one.

At Pensacola is a balance dock, with basin and railway similar to that at Portsmouth, New Hampshire. The depth of water for sinking the dock is not so readily found here as at Portsmouth; and the tide not rising as it does at that place, the test of the works here has been found

more difficult than there. In February, 1853, a board was ordered to witness the testing of these structures, and a frigate of the first class was furnished by the government for the test; but it did not prove satisfactory, and the works have not as yet been accepted. I would beg leave to draw your attention to the importance of a further trial of the premises, or to throw them upon the hands of the contractors. Neither party having taken the desired care to prevent their deterioration, and according to the opinion, as expressed in the report of said board, that the dock will consume its cost in repairs every five years, it will be worthless in about three years hence, unless kept in repair by one or the other party to the contract.

At San Francisco a sectional floating dock has, by last official report, been completed, with the exception of some copper sheathing above water, which it is believed has been done by this time. This dock has been in successful operation about one year, and has taken up some seventeen vessels up to the 20th April last, and among them the United States ships Portsmouth and Warren. The reports of its operations are favorable. The same remarks as to depth of water, and the construction of piers or wharves for working the floating docks at other places, apply here. As this dock is, by act of Congress, placed under the control of the contractors, they have erected temporary piers, but are not of such a character as the government would construct for permanent works. The basin and railway under contract at this place is progressing satisfactorily. A considerable portion of the materials are on the spot, and it is believed the contract will be fulfilled within the time specified.

NAVAL ASYLUM, PHILADELPHIA.

Since my last annual report this institution, under the judicious management of its officers, has subserved the humane purposes for which it was originally designed and established. The beneficiaries have been well cared for. Measures have been taken to have the building and its several apartments well cleansed and ventilated; and I am happy to say that, whilst many of the public and private institutions of the country have been severely afflicted with sad and desolating disease, the naval asylum has been happily exempt. The last returns from the asylum show the number of inmates, including the officers and attendants, to be one hundred and seventy-six; this number, however, does not embrace several of the beneficiaries who are on leave of absence, and who may, at any time, return to the building.

The expenditures for the support of the institution, for the fiscal year ending 30th June last, amounted to \$36,303 75, and was charged respectively to "hospital fund," "pay of the navy," and "contingent."

The sum of \$14,457 10 has been expended for the repairs on the hospital and asylum buildings, embracing the public grounds attached to them, and has been charged to the appropriation for navy hospital and asylum.

My views in reference to the advantages to be derived from a removal of the institution, or the total abolishment of the whole system, substituting therefor a liberal pension according to rank or length of service in the navy, have undergone no change since my last report.

As a general remark, the conduct of the beneficiaries has been satisfactory; but instances of insubordination have occurred which have rendered it necessary, for the preservation of good order, to visit the offenders with expulsion from the institution.

TIMBER AGENCIES.

The employés of the department, in the discharge of their duties as timber agents for the southern States, have continued to perform them in a satisfactory manner. By their energy and activity they have not only checked, to a great extent, the depredations committed upon the public timber in their respective districts, but, from their reports, it appears that in some of the districts the extensive depredations which were formerly carried on, not only coastwise but with foreign countries, have been almost wholly suppressed. The operations of the agents have been more especially directed to the protection of timber suitable and valuable for naval purposes; and it is gratifying to believe that the live-oak, red cedar, and long-leaf yellow-pine timber for masts and spars, which were formerly shipped in large quantities to foreign countries, thereby contributing to the building up of foreign navies, are now chiefly appropriated to our own marine purposes.

I have the honor to be, very respectfully, your obedient servant,
JOS. SMITH.

Hon. JAMES C. DOBBIN,
Secretary of the Navy.

Schedule of papers which accompany the report of the chief of the Bureau of Yards and Docks to the Secretary of the Navy.

- Y. & D.—A.—General estimate from yards and docks.
- Y. & D. No. 1.—Estimate for the support of the bureau.
- Y. & D. No. 2.—Recruiting stations.
- Y. & D. No. 3.—Officers and others at yards and stations.
- Y. & D. No. 4.—Improvements and repairs at yards and stations.
- Y. & D. No. 5.—Statement showing the sums which make up the first and second items in paper Y. & D.—A.
- Y. & D. No. 6.—Improvements and repairs of hospitals and asylum.
- Y. & D. No. 7.—Improvements and repairs of magazines.

BUREAU OF YARDS AND DOCKS,
October 13, 1854.

Y. & D.—A.

General estimate from the Bureau of Yards and Docks for the year ending June 30, 1856, in addition to balances remaining unexpended July 1, 1855.

Objects.	Estimated for the year end- ing June 30, 1856.	Estimated for the year end- ing June 30, 1855.
1. For the pay of commission, warrant, and petty officers, (see paper Y. & D. No. 5).....	\$266,860 00	\$274,976 00
2. For the pay of superintendents, naval constructors, and all the civil establishments at the several yards and sta- tions, (see paper Y. & D. No. 5)	124,480 00	115,350 00
3. For improvements and necessary repairs at yards and stations, (see paper Y. & D. No. 4).....	2,160,072 00	1,425,261 00
4. For hospital buildings and their dependencies, and the naval asylum, (Y. & D. No. 6)	53,398 00	40,051 00
5. For magazines and their dependencies, (see paper Y. & D. No. 7)	180,000 00	141,974 00
6. For contingent expenses that may accrue during the year, for the following purposes, viz: for the freight and transportation of materials and stores for yards and docks; for printing and stationery; for books, maps, models, and drawings; for purchase and repair of fire- engines; for machinery of every description, and the patent right to use the same; for the repair of steam- engines, and attendance on the same in navy yards; for the purchase and maintenance of horses and oxen, and driving teams; for carts, timber-wheels, and workmen's tools of every description, and repairing the same; for postage of letters on public service; for furniture for government houses; for coals and other fuel; for candles and oil for use of navy yards and stations; for cleaning and clearing up yards; for flags, awnings, and packing- boxes; for watchmen, and for incidental labor at navy yards, not applicable to any other appropriation	443,048 00	366,860 00
Total.....	3,227,858 00	2,364,472 00

JOS. SMITH.

BUREAU OF YARDS AND DOCKS, *October 13, 1854.*

NOTE.—The increase of the first item over last year's appropriation, is chiefly caused by the increased pay of the officers for California. That of the second item is chiefly for the increase of civil officers, and their pay, at California, and for the pay of naval constructors and their clerks, and some of the minor officers. That of item third is for basin and railway, California, construction of some of the buildings estimated for last year, but not appropriated for, and for other important and necessary improvements. That of item fourth is for necessary improvements at the different hospitals. That of item fifth is, in accordance with estimate of Bureau of Ordnance, for important improvements proposed for the safe-keeping and inspection of ordnance stores and ammunition, and the necessary repairs in that department. That of item sixth is for necessary tools, &c., required principally on account of six new steam-frigates.

Y. & D. No. 1.

Estimate of the amount required for the support of the Bureau of Yards and Docks for the fiscal year ending 30th June, 1856.

For salary of chief of bureau, per act of 31st August, 1842	\$3,500 00
For salary of chief clerk (4th class) per act of 3d March, 1853	1,800 00
For salaries of four clerks, including draughtsman (2d class,) per acts of 3d March, 1853, and 22d April, 1854,	5,600 00
For salary of one clerk (1st class,) per acts of 3d March, 1853, and 22d April, 1854.	1,200 00
For salary of messenger, per acts of 31st August, 1842, 22d April and 4th August, 1854.	840 00
For salary of civil engineer, per act of 31st August, 1842, and by order of the Secretary of the Navy to do the duty of constructing engineer of the Washington navy yard also	3,000 00
For wages of two laborers (one in the Bureau and the other in the civil engineer's office,) per act of 4th August, 1854, and the decision of the Treasury Department under the same.	1,152 00
	17,092 00
Appropriated for the year ending 30th June, 1855.	14,060 00

Contingent Expenses.

For stationery, books, plans, drawings, and incidental labor	\$800 00
Appropriated for year ending 30th June, 1855.	800 00

Y. & D. No. 2.

Estimate of the pay of the officers attached to the recruiting stations for the year ending June 30, 1856, if no alteration is made in the number of stations.

Rank.	Boston.	New York.	Philadelphia.	Baltimore.	Norfolk.	New Orleans.	Total.	Aggregate am't.
Commanders	1	1	1	1	1	1	6	\$12,600
Lieutenants	1	1	1	1	1	1	6	9,000
Surgeons	1	1	1	1	1	1	6	10,500
Passed midshipmen	1	1	1	1	1	1	6	4,500
Total	4	4	4	4	4	4	24	36,600

Y. & D. No. 3.

Estimate of the pay of officers and others at navy yards and stations, for the fiscal year ending June 30, 1856.

PORTSMOUTH, N. H.			
No.	Officers, &c.	Pay.	Aggregate.
NAVAL.			
1	Captain	\$3,500	
1	Commander	2,100	
1	Lieutenant.....	1,500	
1	Master.....	1,000	
1	Surgeon.....	1,800	
1	Purser.....	2,000	
1	Chaplain	1,500	
2	Passed midshipmen, at \$750 each.....	1,500	
1	Boatswain	700	
1	Gunner	700	
1	Carpenter.....	700	
1	Sailmaker.....	700	
1	Purser's assistant, when performing duties of clerk.....	750	
1	Steward (surgeon's).....	360	
			\$18,810
ORDINARY.			
1	Passed midshipman.....	750	
1	Carpenter's mate.....	228	
11	Seamen, at \$180 each.....	1,980	
6	Ordinary seamen, at \$144 each.....	864	
			3,822
CIVIL.			
1	Storekeeper	1,500	
1	Naval constructor.....	2,600	
1	Civil engineer.....	1,500	
1	Superintendent of floating dock, &c.....	1,000	
1	Foreman and inspector of timber.....	900	
1	Clerk of the yard.....	1,200	
1	Clerk to the commandant.....	1,200	
1	Clerk to the storekeeper.....	900	
1	Clerk to the naval constructor.....	800	
1	Porter.....	360	
			11,960
Total			34,592

BOSTON.

NAVAL.		
1	Captain	3,500
1	Commander.....	2,100
2	Lieutenants, at \$1,500 each.....	3,000
1	Master.....	1,000
1	Surgeon.....	1,800

REPORT OF THE
Y. & D. No. 3—Continued.

BOSTON—Continued.

No.	Officers, &c.	Pay.	Aggregate.
1	Purser	\$2,500	
1	Chaplain.....	1,500	
2	Passed midshipmen, at \$750 each	1,500	
1	Boatswain	800	
1	Gunner	800	
1	Carpenter	800	
1	Sailmaker	800	
1	Gunner, keeper of magazine.....	800	
1	Clerk to purser.....	750	
1	Steward (purser's).....	360	
1	Steward (surgeon's).....	360	
			\$22,370
	HOSPITAL.		
1	Surgeon.....	2,000	
1	Assistant surgeon.....	1,150	
1	Steward.....	480	
1	Matron	204	
2	Nurses, at \$180 each.....	360	
1	Cook.....	204	
1	Washer	144	
3	Watchmen, at \$240 each	720	
			5,262
	CIVIL.		
1	Storekeeper.....	1,700	
1	Naval constructor.....	2,600	
1	Civil engineer.....	2,000	
1	Measurer and inspector of timber.....	1,050	
1	Clerk of the yard.....	1,200	
1	Clerk to the commandant.....	1,200	
1	Clerk (2d) to the commandant.....	960	
1	Clerk to the storekeeper	1,200	
1	Clerk (2d) to the storekeeper.....	900	
1	Clerk (3d) to the storekeeper.....	750	
1	Clerk to the naval constructor.....	800	
1	Porter.....	360	
			14,720
	Total		42,352
	NOTE.—The surgeon of the yard is to be required to attend to the marines also.		

NEW YORK.

	NAVAL.		
1	Captain.....	3,500	
1	Commander	2,100	
2	Lieutenants, at \$1,500 each.....	3,000	
1	Master	1,000	

Y. & D. No. 3—Continued.

NEW YORK—Continued.

No.	Officers, &c.	Pay.	Aggregate.
1	Surgeon.....	\$1,800	
1	Purser.....	2,500	
1	Chaplain.....	1,500	
2	Passed midshipmen, at \$750 each.....	1,500	
1	Boatswain.....	800	
1	Gunner.....	800	
1	Carpenter.....	800	
1	Sailmaker.....	800	
1	Gunner, keeper of magazine.....	800	
1	Clerk to purser.....	750	
1	Steward (purser's).....	360	
1	Steward (surgeon's).....	360	
			\$22,379
	HOSPITAL.		
1	Surgeon.....	2,250	
2	Assistant surgeons, at \$1,150 each.....	2,300	
1	Hospital steward.....	480	
4	Nurses, at \$180 each.....	720	
2	Washers, at \$144 each.....	288	
1	House-cleaner.....	144	
1	Messenger.....	144	
1	Gatekeeper.....	360	
1	Gardener.....	276	
2	Cooks, at \$168 each.....	336	
2	Watchmen, at \$240 each.....	480	
1	Engineer for steam-pump.....	360	
			8,138
	LABORATORY.		
1	Surgeon, director of laboratory.....	2,250	
1	Assistant surgeon.....	1,150	
			3,400
	CIVIL.		
1	Storekeeper.....	1,700	
1	Naval constructor.....	2,600	
1	Civil engineer.....	2,500	
1	Inspector and measurer of timber.....	1,050	
1	Clerk of the yard.....	1,200	
1	Clerk to the commandant.....	1,200	
1	Clerk (2d) to the commandant.....	960	
1	Clerk to the storekeeper.....	1,200	
1	Clerk (2d) to the storekeeper.....	900	
1	Clerk (3d) to the storekeeper.....	750	
1	Clerk to the naval constructor.....	800	
1	Porter.....	360	
			15,220
	Total.....		49,128
	NOTE.—The surgeon of the yard is to be required to attend to the marines also.		

REPORT OF THE
Y. & D. No. 3—Continued.

PHILADELPHIA.

No.	Officers, &c.	Pay.	Aggregate.
NAVAL.			
1	Captain	\$3,500	
1	Commander	2,100	
1	Lieutenant	1,500	
1	Master	1,000	
1	Surgeon	1,800	
1	Purser	2,000	
1	Chaplain	1,500	
1	Passed midshipman	750	
1	Boatswain	700	
1	Gunner	700	
1	Carpenter	700	
1	Sailmaker	700	
1	Purser's assistant when performing duties of clerk also...	750	
1	Steward, (purser's)	360	
1	Steward, (surgeon's)	288	
			\$18,348
HOSPITAL.			
1	Surgeon	2,250	
1	Passed assistant surgeon	1,150	
1	Steward, (surgeon's)	480	
1	Cook	156	
2	Nurses, at \$180 each	360	
2	Washers, at \$108 each	216	
			4,612
NAVAL ASYLUM.			
1	Captain	3,500	
1	Commander	2,100	
1	Lieutenant	1,500	
1	Chaplain	1,500	
1	Carpenter	800	
1	Secretary	900	
1	Steward to the asylum	360	
1	Steward, (purser's)	480	
1	Matron	204	
4	Washers, at \$108 each	432	
1	Cook	168	
2	Cooks, (assistants) 1 at \$120, and 1 at \$96	216	
4	Laundresses, at \$108 each	432	
8	Scrubbers and house cleaners, at \$96 each	768	
4	Laborers	288	
1	Master-at-arms	300	
1	Ship's corporal	240	
			14,188
CIVIL.			
1	Storekeeper	1,500	
1	Naval constructor	2,600	
1	Superintendent of floating dock and machinery	1,000	
1	Measurer and inspector of timber	1,050	
1	Clerk of the yard	1,200	
1	Clerk to the commandant	1,200	
1	Clerk to the storekeeper	900	
1	Clerk (2d) to the storekeeper	750	

Y. & D. No. 3—Continued.

PHILADELPHIA—Continued.

No.	Officers, &c.	Pay.	Aggregate..
1	Clerk to the naval constructor	\$800	
1	Porter	360	
			\$11,360
	Total		48,508
NOTE.—The surgeon of the yard is to be required to attend to the marines also.			

WASHINGTON.

NAVAL.			
1	Captain	3,500	
1	Commander	2,100	
1	Lieutenant	1,500	
1	Master	1,000	
1	Surgeon	1,800	
1	Purser	2,000	
1	Chaplain	1,500	
2	Passed midshipmen, at \$750 each	1,500	
1	Boatswain	700	
1	Gunner	700	
1	Carpenter	700	
1	Purser's assistant when performing duties of clerk also	750	
1	Steward, (surgeon's)	360	
			18,110
ORDINARY.			
1	Passed midshipman	750	
1	Boatswain's mate	228	
1	Carpenter's mate	228	
1	Steward	360	
10	Ordinary seamen, at \$120 each	1,200	
			2,766
CIVIL.			
1	Storekeeper	1,700	
1	Naval constructor	2,600	
1	Inspector and measurer of timber	900	
1	Clerk of the yard	1,200	
1	Clerk to the commandant	1,200	
1	Clerk (2d) to the commandant	960	
1	Clerk to the storekeeper	1,050	
1	Clerk (2d) to the storekeeper	900	
1	Steam engineer and machinist	2,000	
1	Master tank and camboose maker	1,250	
1	Master chain-cable and anchor maker	1,250	
1	Pyrotechnist	1,500	
1	Keeper of magazine	480	
1	Porter	360	
			17,350
	Total		38,226
NOTE.—The surgeon of the yard is to be required to attend to the marines also.			

REPORT OF THE
Y. & D. No. 3—Continued

NORFOLK.

No.	Officers, &c.	Pay.	Aggregate.
NAVAL.			
1	Captain.....	\$3,500	
1	Commander.....	2,100	
2	Lieutenants, at \$1,500 each.....	3,000	
2	Masters, at \$1,000 each.....	2,000	
1	Surgeon.....	1,800	
1	Purser.....	2,500	
1	Chaplain.....	1,500	
2	Passed midshipmen, at \$750 each.....	1,500	
2	Boatswains, at \$800 each.....	1,600	
2	Gunners, at \$800 each.....	1,600	
2	Carpenters, at \$800 each.....	1,600	
1	Sailmaker.....	800	
1	Clerk to the purser.....	750	
1	Steward (purser's).....	360	
1	Steward (surgeon's).....	360	
			\$24,970
HOSPITAL.			
1	Surgeon.....	2,000	
1	Passed assistant surgeon.....	1,150	
1	Assistant surgeon.....	950	
1	Steward.....	480	
1	Matron.....	204	
3	Nurses, at \$180 each.....	540	
2	Cooks, at \$168 each.....	336	
2	Washers, at \$144 each.....	288	
4	Boatmen, at \$120 each.....	480	
1	Boy.....	120	
			6,548
CIVIL.			
1	Storekeeper.....	1,700	
1	Naval constructor.....	2,600	
1	Civil engineer.....	2,500	
1	Inspector and measurer of timber.....	1,200	
1	Clerk of the yard.....	1,200	
1	Clerk to the commandant.....	1,200	
1	Clerk (2d) to the commandant.....	960	
1	Clerk to the storekeeper.....	1,200	
1	Clerk (2d) to the storekeeper.....	900	
1	Clerk (3d) to the storekeeper.....	750	
1	Clerk to the naval constructor.....	800	
1	Keeper of the magazine.....	480	
1	Porter.....	360	
			15,850
Total			47,368
NOTE.—The surgeon of the yard is to be required to attend to the marines also.			

PENSACOLA.

No.	Officers, &c.	Pay.	Aggregate
NAVAL.			
1	Captain.....	\$3,500	
1	Commander.....	2,100	
2	Lieutenants, at \$1,500 each.....	3,000	
1	Master.....	1,000	
1	Surgeon.....	1,800	
1	Purser.....	2,500	
1	Chaplain.....	1,500	
2	Passed midshipmen, at \$750 each.....	1,500	
1	Boatswain.....	800	
1	Gunner.....	800	
1	Carpenter.....	800	
1	Sailmaker.....	800	
1	Purser's assistant, when performing duties of clerk also...	750	
1	Steward (surgeon's).....	360	
1	Steward (purser's).....	360	
			\$21,570
ORDINARY.			
1	Lieutenant.....	1,500	
1	Carpenter's mate.....	228	
2	Boatswain's mates, at \$228 each.....	456	
1	Cook.....	228	
10	Seamen, at \$144 each.....	1,440	
80	Ordinary seamen, at \$120 each.....	9,600	
			13,452
HOSPITAL.			
1	Surgeon.....	2,250	
2	Assistant surgeons, at \$950 each.....	1,900	
1	Steward.....	480	
1	Matron.....	250	
3	Nurses, at \$180 each.....	540	
2	Cooks, at \$168 each.....	336	
3	Washers, at \$144 each.....	432	
1	Baker.....	420	
1	Carter.....	144	
1	Messenger.....	168	
3	Watchmen, at \$360 each.....	1,080	
1	Gardener.....	274	
			8,274
CIVIL.			
1	Storekeeper.....	1,700	
1	Naval constructor.....	2,600	
1	Civil engineer.....	3,000	
1	Inspector and measurer of timber.....	900	
1	Superintendent of floating dock and machinery.....	1,000	
1	Clerk of the yard.....	1,200	
1	Clerk to the commandant.....	1,200	
1	Clerk (2d) to the commandant.....	960	
1	Clerk to the storekeeper.....	1,200	

REPORT OF THE
Y. & D. No. 3—Continued.

PENSACOLA—Continued.

No.	Officers, &c.	Pay.	Aggregate.
1	Clerk (2d) to the storekeeper.....	\$900	
1	Clerk (3d) to the storekeeper.....	750	
1	Porter	360	
			\$15,770
	Total.....		59,066
NOTE.—The surgeon of the yard is to attend to the marines near the yard, and to such persons in the yard as the commandant may direct.			

SAN FRANCISCO.

NAVAL.			
1	Captain	5,000	
1	Commander	3,000	
1	Master.....	1,500	
1	Surgeon	3,000	
1	Steward (surgeon's).....	750	
			13,250
CIVIL.			
1	Navy agent, to do the duty of purser also.....	4,000	
1	Storekeeper	2,500	
1	Constructing engineer.....	4,000	
1	Clerk to navy agent } One to do the duty of clerk of the	3,000	
1	Clerk to navy agent } yard also.....	2,500	
1	Clerk and draughtsman to constructing engineer.....	2,500	
1	Clerk to the storekeeper	1,500	
1	Clerk to the commandant.....	1,500	
1	Porter.....	750	
			22,250
	Total.....		35,500

RECAPITULATION.

Yards.	Naval.	Ordinary	Hospital.	Asylum.	Laboratory.	Civil.	Aggregate.
Portsmouth, N. H.....	\$18,810	\$3,822				\$11,960	\$34,592
Boston	22,370		\$5,262			14,720	42,352
New York	22,370		8,138		\$3,400	15,220	49,128
Philadelphia	18,348		4,612	\$14,188		11,360	48,508
Washington.....	18,110	2,766				17,350	38,226
Norfolk	24,970		6,548			15,850	47,368
Pensacola	21,570	13,452	8,274			15,770	59,066
San Francisco.....	13,250					22,250	35,500
	159,798	20,040	32,834	14,188	3,400	124,480	354,740

Y. & D. No. 4.

Estimate of the amount that will be required towards the construction and completion of works, and for the current repairs at the several navy yards, for the fiscal year ending June 30, 1856.

PORTSMOUTH, N. H.

For completing cooper's shop and watchmen's quarters; dredging front of basin; dock basin; offices and muster-room; sewer and drainage; removing ledge; paving; flue-boiler at smithery; repairs of floating dock; and repairs of all kinds..... \$89,258

BOSTON.

For removing and altering coal-house at smithery; stone wall north side of timber dock, and filling area around machine shop and smithery; copper and iron store and paint shop; packing house and cooperage; rebuilding dock-engine boiler-house; paving area around dry dock; paving between sheds Nos. 31 and 33; gas-pipes and burners for the yard, commandant's and officers' quarters; extension of city sewer to sea-wall; finishing coal-house at ropewalk; machinery for machine-shop, smithery, &c.; steam-engine and pump for ropewalk; oakum pickers; and repairs of all kinds..... \$226,900

NEW YORK.

For extension of smithery; machinery for smithery; carpenters' shop; oakum shop; quay wall; paving and flagging; dredging channels; timber and knee-slip; dry dock pavement; filling in low places and grading; filling in new purchase; and repairs of all kinds..... \$381,000

PHILADELPHIA.

For adding 60 feet to ship-house F; roof to ship-house F; roof to ship-house G; wharf No. 4; dredging channels; repairs of dry dock; and repairs of all kinds..... \$66,700

WASHINGTON.

For ordnance building, (to refund amount borrowed from machinery;) completing cradle to marine railway; extension of boiler shop; conversion of ordnance to machine shop; forge shop for new steam-hammer; shoring ways in ship-house T; lining walls of slip; wall west side of yard; pavements, drains, and gutters; grading and filling low places; raising roof of brass foundry; fire-engine house; dredging channels; reservoir for water; and repairs of all kinds..... \$198,586

NORFOLK.

For continuing quay wall; reservoirs for rain-water; dredging channels; foundry; engine of dry dock; carpenters' work-shop; rail tracks and cars at St. Helena; scows, landing cranes and derricks; cart-shed; lime and cement storehouse; steam-boxes and boilers; pitch-house; and repairs of all kinds..... \$243,158

PENSACOLA.

For permanent wharf, deep basin, and dredging; coping for basin; filling in and paving; removing sunk caisson; paint-shop and cooperage, (to complete;) repairs of cisterns Nos. 14, 25, and 26; water-pipes to permanent wharf; guard-house at west gate; shell-house; wall around shell-house; lightning-conductors; railway to spar-house; towards west basin and launching-slip; steam-box; fire-engine house; and repairs of all kinds.. \$267,470

SACKETT'S HARBOR.

For repairs of all kinds..... \$2,000

SAN FRANCISCO.

For completing storehouse; completing blacksmiths' shop; completing carpenters' shop; wharf; houses (3) for quarters; and repairs of all kinds..... \$285,000
For continuation of basin and railway..... 400,000

RECAPITULATION.

Portsmouth, New Hampshire.....	\$89,258
Boston.....	226,900
New York.....	381,000
Philadelphia.....	66,700
Washington.....	198,586
Norfolk.....	243,158
Pensacola.....	267,470
Sackett's Harbor.....	2,000
San Francisco.....	685,000
	<u>2,160,072</u>

BUREAU OF YARDS AND DOCKS,
October 13, 1854.

Y. & D. No. 5.

Statement showing the several sums which make up the amounts of the first and second items in the general estimate for the Bureau of Yards and Docks, marked Y. and D.—A, for the year ending 30th June, 1856.

FIRST ITEM.

For recruiting stations.....	\$36,600
For naval branch at yards and stations.....	159,798
For hospital branch at yards and stations.....	50,422
For ordinary branch at yards and stations.....	20,040
	<u>266,860</u>

SECOND ITEM.

For the civil branch at all the yards and stations.....	<u>\$124,480</u>
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BUREAU OF YARDS AND DOCKS,
October 13, 1854.

Y. & D. No. 6.

Estimate of the amount that will be required towards the construction and completion of works, and for the current repairs at the several naval hospitals, for the year ending 30th June, 1856.

BOSTON.

For repairs of all kinds.....	<u>\$6,000</u>
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NEW YORK.

For enclosing wall; repairs of buildings and fences; grading and cemetery; machinery, &c.; labor; and repairs of all kinds.....	<u>\$19,270</u>
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PHILADELPHIA.

For paving Shippen street; repairing lower floor of main building; improving wharf property; repairs to furnaces, grates, and ranges; gas; house-cleaning and white-washing; water rent; furniture and repairs to same; and repairs of all kinds.....	<u>\$7,100</u>
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NORFOLK

For repairs of hospital and dependencies.....	<u>\$1,200</u>
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PENSACOLA.

For water-closets; lightning-conductors; draining ponds; wall around burial ground; and repairs of all kinds.....	<u>\$19,828</u>
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RECAPITULATION.

For Boston.....	\$6,000
For New York.....	19,270
For Philadelphia.....	7,100
For Norfolk.....	1,200
For Pensacola.....	19,828
Total.....	<u>53,398</u>

BUREAU OF YARDS AND DOCKS,
October 13, 1854.

Y. & D. No. 7.

Estimate of the amount that will be required towards the construction and completion of works and for the current repairs at the several naval magazines, for the year ending 30th June, 1856.

PORTSMOUTH, N. H.

For repairs of all kinds.....	<u>\$500</u>
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BOSTON.

For fire-proof building for loaded shells; house for unloaded shells and work-shop; platforms for stowing shot; addition to storehouse for gun-carriages; and for repairs of all kinds.....	<u>\$22,000</u>
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NEW YORK.

For gunner's house at Ellis's island; machinery and fitting room for its use; gun-carriage shop, &c.; building for stowing gun-carriages, &c.; fire-proof building for loaded shells; building for unloaded shells; shot platforms; stowage and transportation of guns; and for repairs of all kinds.....	<u>\$110,000</u>
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PHILADELPHIA.

For a fire-proof building for loaded shells; purchase of land; magazine and keeper's house; fitting-room for ordnance stores, &c.....	<u>\$20,000</u>
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WASHINGTON.

For a cap-machine (Wright's patent;) rebuilding experimental battery; and fuel for ordnance foundry.....	\$9,500
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NORFOLK.

For fitting up storehouse for filling, &c.; shot platforms and gun-skids.....	\$10,000
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PENSACOLA.

For a fire-proof house for loaded shells; fitting room for ordnance stores; gun-skids; shot platforms; and repairs of magazine.....	\$8,000
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RECAPITULATION.

For Portsmouth, N. H.....	\$500
For Boston.....	22,000
For New York.....	110,000
For Philadelphia.....	20,000
For Washington.....	9,500
For Norfolk.....	10,000
For Pensacola.....	8,000
Total.....	180,000

BUREAU OF YARDS AND DOCKS,

October 13, 1854.

No. 4.

NAVY DEPARTMENT, BUREAU OF CONSTRUCTION, &c.,

October 10, 1854.

SIR: In submitting for your consideration an estimate of the amount necessary for the support of this branch of the naval service for the fiscal year ending 30th June, 1856, it may be proper to refer to the number and condition of the ships of which it is at present composed.

The ships-of-the-line, ten in number, were commenced about the years 1818 to 1822, and four of them are at this time on the stocks.

The Pennsylvania, the only three-deck ship in the navy, was launched in 1837, previous to which it was necessary to remove much of the work, which had decayed during the sixteen years she had been on the stocks. This ship could not now be sent to sea without being rebuilt; the frame, of live-oak, being probably the only part that would be found in good condition, and which has a considerable value as it stands in place.

The Delaware and North Carolina, launched in 1820, are likewise unfit for sea service, and require extensive repairs or rebuilding.

The Ohio, launched about the same time, having been more recently rebuilt, is in a better condition, and might, at moderate cost, be made available for service at home.

The Pennsylvania, Ohio, and North Carolina, are at present in commission as receiving-ships.

The Columbus, launched in 1819, is of smaller dimensions than the other ships-of-the-line, and therefore her services in time of war would be much restricted. She likewise requires to be rebuilt before she can again go to sea.

The Vermont, commenced in 1818 and launched in 1848, is the only ship-of-the-line that can be at once made available for foreign service.

The Alabama, Virginia, and New York, on the stocks since 1818, are about two-thirds completed in their hulls, but a portion of the work already done must be renewed. These vessels being under cover, their deterioration has been much less than that of the ships afloat.

The New Orleans, on the stocks at Sackett's Harbor, was commenced in 1815, and is not half built. For several years the name of this vessel was omitted in the Navy Register, and it is probable she will never be of any service to the navy. Steam-vessels will take the place of sailing-vessels on these lakes.

There has been no ship-of-the-line at sea since the return of the Ohio, in 1850.

The ships-of-war of all nations constructed about the period the ships above named were built, were designed with a view to numerous or heavy armaments, which are continued far to the extremities of the ship. Whilst this is desirable in some points of view, it produces a form which is not so well calculated for speed, yet these vessels combine many nautical qualities to a very high degree.

The difficulty of converting sailing-ships into efficient auxiliary steamers arises from their want of capacity or internal space, and the change can be effected with greater success in large than in small ships. The additional weight required to be carried causes a greater immersion, and impairs their nautical qualities; but this can to some extent be remedied by reducing their rate.

The Pennsylvania and the Columbus are the two ships which in this way could be most advantageously converted, the former into an auxiliary screw steam-frigate, and the latter into an auxiliary spar-deck sloop.

The frigates on the Navy Register are thirteen in number, of which two are at present on the stocks.

The largest ship of this class, the Independence, was built in 1814, as a ship-of-the-line, and in 1837 was converted into a frigate. She has been recently repaired, but upon her return from the present cruise in the Pacific will require to be rebuilt.

The Constitution and United States were originally built in 1797, but have both been rebuilt many times. The Constitution was repaired in 1848, at a cost of \$198,000. The United States was rebuilt in 1823, at an expense of \$222,083; and again in 1832, at \$208,148; from which latter period up to 1846, her repairs have amounted to

\$335,427. This ship has not been to sea since her return in 1849, and must be rebuilt at a cost equal to that of a new ship. The dimensions of both these ships are much smaller than those of the frigates they would have to encounter in the next war.

The Brandywine, Potomac, Columbia, Cumberland, Savannah, Raritan, and St. Lawrence, were commenced about the year 1821. These ships have all been extensively repaired several times, the cost of which is constantly increasing as they become older. To repair the Brandywine would, as in the case of the United States, be at the cost of a new ship.

The Congress is a vessel of larger dimensions and in better condition than most of those just named. She was launched in 1841, as soon as completed; has been continually in service, and is at present ready for sea.

The Santee, commenced in 1820, and the Sabine, commenced in 1822, are the two frigates on the stocks. Under the act of Congress for building "six steam-frigates," these ships have been directed to be launched and equipped.

The general principle upon which the fore-named ships were planned, was in a great measure that of the English ships of the time, with relatively sharp after-ends and full fore-ends, and not as the superior French ships of an earlier date.

From the length of time the Santee and Sabine have been on the stocks, and the consequent necessity of removing many of the plank and some of the principal pieces, it has been taken advantage of to improve the form of the fore-end, and there is no doubt but that the result will show that the constructors at the different yards where they are building have successfully carried out the views of the department. These ships are ready for launching, and can be immediately fitted for service. Two of the frigates being represented as unworthy of repair, there will thus be eleven frigates afloat, with which to keep seven at sea, but of the four in reserve there will be two that require heavy repairs before they could be sent abroad.

The sloops-of-war are twenty in number. The largest of these ships, the Constellation, was built in 1797, as a frigate of the second class, and had been many times rebuilt. Being found altogether unworthy of further repair, she has been rebuilt as a spar-deck sloop, and will be fully equal to the razee sloops of other nations.

The Macedonian was also a frigate of the second class, built in 1836, and has been converted into a spar-deck sloop. These two ships may be considered as among the most efficient in the navy.

The Portsmouth, Plymouth, St. Mary's, Jamestown, Germantown, and Saratoga, were launched from 1842 to 1845, and are the sailing-ships of the latest date that have been built in the navy. The repairs on these ships have already become very costly, and some of them will require rebuilding.

The John Adams, Vincennes, Falmouth, Vandalia, St. Louis, Cyane, and Levant, are generally old ships, some of them having been built in 1826, and others as late as 1838. In some cases, the repairs of these ships have been very costly; that of the St. Louis, in 1839, being \$116,205; since which there has been expended \$127,845, and

on her return she will require rebuilding. The Vincennes, in 1849, cost \$99,861; the Vandalia, in 1849, the sum of \$109,683.

The remaining sloops-of-war, the Decatur, Marion, Dale, and Preble, are of a small class, and were built in 1839. Taking into consideration their size and efficiency, there will be no advantage in continuing them in the service when they again require extensive repairs.

The several squadrons requiring that eighteen sloops-of-war be kept at sea, there will be but two ships available for any sudden emergency. It is now necessary when a ship of this class returns from a cruise, immediately to commence the repair, however disadvantageous the time or circumstances may be.

The brigs, four in number, are too small to be of much service. To be efficient, they should be of larger size.

The steamers that may be considered ships-of-war, are eight in number, of which the San Jacinto and Princeton are screw-steamers, and the Mississippi, Susquehanna, Powhatan, Saranac, Michigan, and Fulton, are side-wheel steamers.

The Michigan is confined to Lake Erie, and the Fulton is only useful for harbor or coast service.

The Mississippi, Susquehanna, and Powhatan, will require repairs to their hulls, and most of them repairs on their machinery. When this becomes necessary, to an expensive degree, in the Powhatan and Susquehanna, there will be an advantage in converting them into screw-steamers, and as such they will be more efficient than at present.

The remaining vessels on the Register can only be considered as transports or tenders.

From the above statement there would be effective for foreign or sea service, two ships-of-the-line, nine frigates, eighteen sloops-of-war, four brigs, and six steamers—that is, thirty-nine vessels of the seventy-two which appear on the Register.

With a view to a comparison between the tonnage of the navy and that of the merchant marine, the following statement is given:

In 1802, when the navy was reorganized, and the useless vessels sold, the total tonnage of the merchant service was 892,104 tons, and that of the navy 14,268 tons, or the $\frac{1}{62}$ d part.

In 1853 the total tonnage of the merchant service was 4,407,010 tons, and that of the thirty-nine efficient ships above named as available for sea service is 48,963 tons, or the $\frac{1}{90}$ th part.

In addition to the ships before mentioned, there are at present in construction the six steam-frigates authorized by the act of Congress approved April 6, 1854; the steam-frigate Franklin, rebuilding, is also of the same class.

The live-oak frames and much of the copper and iron were on hand and immediately available for the building of these ships, but the white-oak and yellow-pine were deficient. For several years an appropriation for the gradual increase of the navy was expended for the purchase and accumulation of such materials, and from that which was so collected the repairs and rebuilding of the navy has since been done. These purchases having ceased, the consequence is that the most important pieces of timber for a ship are rare—at some of the

yards are not to be had; and complete frames or sets of pieces have had to be broken, from this necessity.

The stock of keels, posts, stems, hooks, floors, and keelsons, is now nearly exhausted. The knee-timber is so reduced, and has been so often culled, that it is very probable the steam-frigates cannot be completed without recourse being had to the use of iron knees. These important pieces of timber require much time to collect, and are not to be obtained at a short notice. The demand for such pieces in the large ships and in the steamers of the merchant service has greatly increased the cost and reduced the number.

To show the poverty of the navy in white-oak at the time these ships were commenced, the aggregate of the whole quantity at the several yards, suitable for the purpose, was not one-third of that required for the six steam-frigates, and of the yellow-pine about two-thirds; these ships must, therefore, be built with unseasoned timber.

The quantity of timber necessary to maintain the present navy afloat, is not less than 170,000 cubic feet per year; and for the last few years the contracts have not reached over 150,000 cubic feet, but that quantity has not been delivered.

The contractors being often persons who have no immediate connexion with the business they undertake, they offer at low rates, and, finding there will be no profit, their efforts are directed to evade the difficult portions of their contracts, or they fail in them altogether.

The annual appropriation having been strictly limited to the least possible amount with which the service can struggle on, there can be nothing provided or on hand with which to execute anything beyond it; and, as in the present instance, there must not only be delay, but the materials must be purchased at the highest price. For the purpose of carrying out the act of Congress for the construction of six steam-frigates, and launching and equipping the frigates *Santee* and *Sabine*, the further sum of \$3,000,000 will be required.

The estimate for the steam-frigates which accompanied the report of last year, was based upon the actual cost of the largest steam-propeller frigate in the navy; but the increased size and power of the ships now building, the rise in the price of materials and labor, together with the expense of equipping the frigates *Santee* and *Sabine*, will make the sum named necessary.

The estimate for the fiscal year ending 30th June, 1856, for the purpose of repair and keeping up the present fleets, is \$2,799,500; being an increase of \$264,550 beyond that of the present year.

In consequence of the great rise in the price of all materials made use of in building ships, and in the cost of labor, it has been already made known that the appropriation for the present fiscal year may be expected to fall short. The increase made by Congress was very much below the amount absorbed by coal for the Japan expedition, to which there should be added the expense of all other kinds of that as well as of the Behring Straits squadron. The cost of keeping up the ships of which the present navy is principally composed, will annually increase; and as the number of steamers is augmented, so will be the cost of fuel and the repair of steam machinery. In addition to this, the dura-

bility of a steamer may be expected to be less than that of a sailing-ship, thus further increasing the expense as the steam navy is enlarged.

When the amount above estimated as necessary for the repairs of ships, their wear and tear, steam machinery, fuel and hemp, shall have been granted, at the end of the period for which it is required the navy will be in about the same condition in which it is at present—the stock will not be increased; no new ships can be added, however urgent the necessity, without a great loss of time and of money, very much beyond that of the deterioration of the materials which might be kept on hand.

The iron war-steamer building by Mr. Stevens, in accordance with an act of Congress of 14th April, 1842, is still in progress. The total amount specified in the contract is \$586,717 84; of which, \$86,717 84 is to be retained until the ship is tried by the department. The superintendent represents that a large number of workmen are engaged on the ship; that the keel is laid, a number of frames prepared, and the engines and boilers in progress.

The sum of \$250,000 is asked for this vessel.

There appears to be very little certainty of obtaining American water-rotted hemp, as the cultivators, making great profit at the present price of dew-rotted, seem to have little inducement to water-rot. The small amount of money which can be allotted from the appropriation for the navy to the purchase of hemp, if devoted entirely to encourage this branch of agriculture, could produce but a small result. Flax canvass, which is an important article for the navy, is also obtained from foreign countries.

The manufacture of sheet-copper by the navy proving successful, it is thought that the further purchase of the manufactured article may be suspended, and the navy prepare the bolt and sheet copper for its own use. The manufacture of oakum will in like manner be to the interest of the service.

The store-ships of the navy seem to be a considerable burden of this bureau, as the entire cost of their maintenance is borne by it; yet the principal use is for another bureau of the Navy Department.

Your attention is respectfully solicited to the position and pay of the principal agents of this bureau, the naval constructors, by whom, in a great measure, the appropriations for this branch of the naval service are expended. Two-thirds of the cost of building and repairing the ships is under their direction, and the economical expenditure of the materials and labor depends upon their skill and judgment. Though the pay of all branches of the naval service has been increased, that of the naval constructors has remained as it was fixed some twenty-five to thirty years ago.

The naval constructor is the principal and leading mechanic in a navy yard; his presence is constantly necessary; but they are not provided for as are the naval officers connected with the establishment; and even the little addition which they did have to their pay, (a small allowance of their apprentices,) has, within a year or two, been taken from them.

The following is a list of vessels of the navy upon which work has been executed at the several navy yards, during the past fiscal year:

Portsmouth, N. H.—Franklin, Santee, Cyane, Princeton, Fulton.

Boston.—Vermont, Santee, Dale, Germantown, Decatur, John Adams, Cyane.

New York.—North Carolina, Independence, Congress, Cumberland, Columbia, Brandywine, Sabine, Albany, Cyane, Bainbridge, Princeton, Vixen, Relief.

Philadelphia.—St. Mary's, Cyane, Jamestown, Fulton, San Jacinto.

Washington.—Engineer, Alleghany, Fulton.

Gosport, Va.—Pennsylvania, Savannah, Potomac, Raritan, St. Lawrence, Columbia, Constellation, Falmouth, Ontario, Preble, Decatur, Dolphin, Perry, Saranac, Princeton, Alleghany, Fulton, Massachusetts, Engineer.

Pensacola, Fla.—Vixen, Albany.

I have the honor to be, respectfully, your obedient servant,

JOHN LENTHALL,

Chief of the Bureau.

Hon. JAMES C. DOBBIN,

Secretary of the Navy.

A.—Estimate of the amount required for the expenditures of the Bureau of Construction, Equipment, and Repair, for the fiscal year ending on the 30th June, 1856.

For salary of chief of the bureau, per act of 31st August, 1842, vol. 5, sec. 3, p. 579.....	\$3,000 00
For salary of engineer-in-chief, per act of 31st August, 1842, vol. 5, sec. 4, p. 577.....	3,000 00
For salary of one clerk, 4th class, per act of 3d March, 1853; pamphlet edition, page 210.....	1,800 00
For salary of seven clerks, 2d class, per acts of 3d March, 1853, and of April 22 and August 4, 1854; pamphlet edition.....	9,800 00
For salary of one clerk, 1st class, per acts of 3d March, 1853, and of April 22 and August 4, 1854; pamphlet edition.....	1,200 00
For salary of one messenger, per acts of 31st August, 1842, (vol. 5, sec. 6, page 580,) and of April 22 and August 4, 1854.....	840 00
For salary of two laborers for the bureau and office of engineer-in-chief, per acts of April 22 and August 4, 1854.....	1,152 00
	20,792 00
CONTINGENT EXPENSES.	
For blank books, binding, stationery, printing, and miscellaneous items.....	800 00
	21,592 00

B.

Estimate for pay of commission, warrant, and petty officers and seamen, including the engineer corps of the navy, required for vessels proposed to be kept in commission, including receiving-vessels, for the fiscal year ending 30th June, 1856.

For the fiscal year ending 30th June, 1855.....	<u>\$2,102,610</u>
For the fiscal year ending 30th June, 1856.....	<u>\$2,640,857</u>

NOTE.—The excess over the estimate for the last year arises from an increase of pay allowed to seamen in the navy, as authorized by the general order of the department of August 11, 1854.

C.

Estimate of the amount required for objects under the direction of this bureau, payable from the appropriation for increase, repairs, &c., exclusive of armament for wear and tear of vessels in commission, including fuel for steamers and the purchase of hemp for the navy, for the fiscal year ending on the 30th of June, 1856.

For the fiscal year ending June 30, 1855.	Amount appropriated for the fiscal year ending June 30, 1855.	For the fiscal year ending June 30, 1856.
Increase, &c..... \$2,214,950	Increase, &c.... \$2,534,950	Increase, &c..... \$2,799,500
Six steam-frigates 1,080,000	Six steam-frigates, Santee, and Sa- bine..... 3,000,000	Six steam-frigates, Santee, and Sa- bine 3,000,000
		Stevens's war steamer..... 250,000
<u>3,294,950</u>	<u>5,534,950</u>	<u>6,049,500</u>

D.

Estimate of the amount required for the expenditures under the head of "enumerated contingent" for the fiscal year ending on the 30th June, 1856.

For the fiscal year ending 30th June, 1855.....	<u>\$300,000</u>
For the fiscal year ending 30th June, 1856.....	<u>\$350,000</u>

NOTE.—The excess above last year is in consequence of the increased cost of freight and transportation.

RECAPITULATION OF ESTIMATES.

Civil.

Salaries	\$20,792
Contingent	800

Navy.

Pay of the navy	2,640,857
Increase, repairs, &c	6,049,500
Contingent enumerated	350,000

Ex. Doc. 1—31*

E.—Vessels in commission belonging to the navy, on the 1st of October, 1854.

Names of vessels.	Guns.	Men.	Where built.	Date.	Sailed.	What service.
<i>Ships-of-the-line.</i>						
Pennsylvania	120	.....	Philadelphia	1837	.....	Receiving-ship, Norfolk.
North Carolina	84	.....	do	1820	.....	Receiving-ship, New York.
Ohio	84	.....	New York	1820	.....	Receiving-ship, Boston
<i>Frigates.</i>						
Independence	56	.....	Boston	1814	.....	Pacific.
Constitution	50	400	do	1797	Mar. 2, 1853	Coast of Africa.
Columbia	50	400	Washington	1836	Feb. 11, 1853	Home Squadron.
Cumberland	50	400	Boston	1842	May 17, 1852	Mediterranean.
St. Lawrence	50	400	Norfolk	1847	Dec. 11, 1851	Pacific.
Savannah	50	400	New York	1842	Sept. 14, 1853	Brazil.
<i>Sloops.</i>						
Macedonian	22	227	Captured, 1812; rebuilt	1836	April 13, 1853	East Indies.
Portsmouth	22	162	Kittery	1843	Dec. 16, 1851	Pacific.
Plymouth	22	162	Boston	1843	Aug. 23, 1851	East Indies.
St. Mary's	22	162	Washington	1844	Oct. 15, 1853	Pacific.
Albany	22	162	New York	1846	Nov. 27, 1852	Home Squadron.
German town	22	144	Philadelphia	1846	Dec. 2, 1853	Brazil.
Vincennes	20	136	New York	1826	June 11, 1853	North Pacific Exploring Expedition.
St. Louis	20	162	Washington	1828	Aug. 24, 1852	Mediterranean.
Levant	20	162	New York	1837	July 12, 1852	Do.
Vandalia	20	142	Philadelphia	1828	Mar. 5, 1853	East Indies.
John Adams	20	162	Charleston, S. C., 1799; rebuilt.	1820	.....	Pacific.
Marion	16	104	Boston	1839	Jan. 8, 1853	Coast of Africa.
Dale	16	105	Philadelphia	1839	Oct. 8, 1853	Do.
Decatur	16	104	New York	1839	June 14, 1854	Pacific.
Preble	16	.....	Portsmouth, N. H.	1839	.....	Practice-ship, Annapolis.
Falmouth	20	.....	Boston	1827	.....	Home Squadron.

[illegible]

F.

Vessels in ordinary, repairing and equipping, &c.

Names of vessels.	Guns.	Where built.	Date.	Station.
<i>Ships-of-the-line.</i>				
Vermont.....	74	Boston.....	1848	Boston.
Columbus.....	74	Washington.....	1819	Norfolk.
Delaware.....	74	Gosport.....	1820	Do.
<i>Frigates.</i>				
Congress.....	50	Kittery.....	1841	New York.
Raritan.....	50	Philadelphia.....	1843	Do.
United States.....	50	do.....	1797	Norfolk.
Potomac.....	50	Washington.....	1821	Do.
Brandywine.....	50	do.....	1825	New York.
<i>Sloops.</i>				
Cyane.....	20	Boston.....	1837	Boston.
Constellation.....	22	Norfolk.....	1854	Norfolk.
Saratoga.....	20	Kittery.....	1842	Boston.
Jamestown.....	22	Norfolk.....	1844	Philadelphia.
<i>Brigs.</i>				
Perry.....	6	Norfolk.....	1843	New York.
Dolphin.....	4	New York.....	1836	Norfolk.
<i>Steamers.</i>				
Alleghany.....	2	Pittsburg, Pa.....	1847	Washington.
Vixen.....	3	Purchased.....	1846	Do.

G.

Vessels on the stocks and in progress of construction October 1, 1854.

SHIPS-OF-THE-LINE.

Alabama.....	Kittery.
Virginia.....	Boston.
New York.....	Gosport.
New Orleans.....	Sackett's Harbor.

FRIGATES.

Santee.....	Kittery.
Sabine.....	New York.

AUXILIARY STEAM-FRIGATES.

Franklin.....	Kittery, (rebuilding.)
Merrimack.....	Boston.
Niagara.....	New York.
Wabash.....	Philadelphia.
Minnesota.....	Washington.
Roanoke.....	Norfolk.
Colorado.....	Norfolk.

STEAMERS.

Stevens's iron steamer.....	Hoboken, New York.
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H.—*Abstract statement showing receipts and expenditures for fiscal year ending June 30, 1854, and value of all the stores on hand at the various navy yards on the 1st day of July, 1854.*

Navy yards.	On hand July 1, 1853.	Received.	Expended.	On hand July 1, 1854.
Portsmouth.....	\$669,841 68½	\$43,330 33	\$46,611 51	\$666,560 50½
Boston.....	1,522,599 41	493,866 12	434,663 38	1,581,802 15
New York.....	1,371,207 21	263,736 19	264,225 42	1,370,717 98
Philadelphia.....	442,771 71	72,188 34	61,467 04	453,493 01
Washington.....	411,163 73	362,011 58	265,475 74	507,699 57
Norfolk.....	1,641,065 26	237,202 27	316,867 49	1,561,400 04
Pensacola.....	248,521 58½	37,139 22	11,695 23	273,965 57½
Memphis.....	6,552 03	28,771 92	21,168 83	14,155 12
Total.....	6,313,722 62	1,538,245 97	1,422,174 64	6,429,793 95

I.

Statement of the number of days' labor, and its cost, from July 1, 1853, to June 30, 1854, for the respective navy yards, for building, repairing and equipping vessels of the navy, or in receiving or securing stores and materials for those purposes.

Yards.	Number of days' labor.	Cost of labor.	Average per diem.
Portsmouth.....	17,011½	\$33,077 43	\$1 94.4
Boston.....	65,803½	122,477 75	1 86
New York.....	129,299½	221,714 60	1 71.5
Philadelphia.....	59,457½	92,978 90	1 56.2
Washington.....	51,445½	80,104 88	1 55.7
Norfolk.....	188,670½	323,236 57	1 71.3
Pensacola.....	7,160½	13,609 21	1 90
	518,848½	887,199 34	1 71

NAVY DEPARTMENT, BUREAU OF CONSTRUCTION, &c.,
October 10, 1854.

SIR: In conformity with the act of the 3d of March, 1843, I respectfully transmit herewith duplicate abstracts of offers received to furnish naval supplies coming under the cognizance of this bureau, exhibiting in scales from No. 1 to 22 inclusive, as well those which were rejected as those accepted, between the 1st of November, 1853, (date of last report) and 1st of October, 1854; and in conformity with the act of 21st of April, 1808, I also transmit herewith duplicate lists of contracts made and received during the same period.

I have the honor to be, with great respect, your obedient servant,
JOHN LENTHALL,
Chief of the Bureau.

Hon. J. C. DOBBIN,
Secretary of the Navy.

No. 1.

Abstract of offers made to furnish naval supplies coming under the cognizance of the Bureau of Construction, Equipment, and Repair, exhibiting, in scales from No. 1 to No. 22 inclusive, as well those which were accepted as those which were rejected, between October 20, 1853, and October 1, 1854: reported in obedience to an act of Congress of March 3, 1843.

*Schedule of prices per Merrick & Son for repairs on steamer San Jacinto...	\$70,000 00
Schedule of prices per E. Wheeler for tank iron at Washington, D. C., per pound.....	6½ cents.
Schedule of prices per James L. Foxwell for white-oak timber at Washington, D. C., per cubic foot	45 cents.

* Contract for repairs of the San Jacinto made with the Navy Department September 22, 1853.

Scale of offers to furnish metals at the navy yard, Kittery, Me., under advertisement of May 11, 1854.

Bidders.		Class 3.
		Iron.
1	Joseph R. Anderson.....	*\$2,400 00
2	Wm. Lang.....	2,775 00
3	Lyman D. Spalding.....	2,850 00
4	John A. Higgins.....	3,600 00
5	Caleb Bonsal.....	3,900 00

* Accepted.

No. 4.

Scale of offers to furnish metals at the navy yard, Charlestown, Mass., under advertisement of May 11, 1854.

	Bidders.	Class 1.	Class 2.	Class 3.	Class 4.	Class 5.	Class 6.	Class 7.	Class 10.
		Copper.	Composition.	Iron.	Iron spikes and nails.	Lead.	Tin and zinc.	Brass.	Hardware.
1	Horton, Hall & Co.....	\$19,937 00	*\$3,060 00	\$3,197 25	*\$537 50	*\$1,187 50	*\$1,850 00	*\$170 00	*\$984 53
2	John A. Higgins .....	.....	4,840 00	.....	1,070 00	1,450 00	1,950 00	440 00	.....
3	Storer & Stephenson	*19,660 00	3,320 00	.....	.....	.....	.....	.....	.....
4	Caleb Bonsal.....	27,040 00	5,600 00	.....	1,160 00	1,600 00	2,249 00	575 00	.....
5	Wm. Lang .....	.....	.....	3,791 50	605 00	.....	.....	.....	.....
6	F. W. Lincoln.....	20,663 00	.....	.....	.....	.....	.....	.....	.....
7	Jos. R. Anderson.....	.....	.....	*3,163 50	.....	.....	.....	.....	.....

* Accepted.

No. 5.

Scale of offers to furnish metals at the navy yard, Brooklyn, under advertisement of May 11, 1854.

	Bidders.	Class 1.	Class 2.	Class 3.	Class 4.	Class 5.	Class 6.	Class 7.	Class 10.
		Copper.	Composition.	Iron.	Iron spikes and nails.	Lead.	Tin and zinc.	Brass.	Hardware.
1	Jos. R. Anderson.....	.....	.....	\$5,745 00	.....	.....	.....	.....	.....
2	C. S. Storms.....	.....	.....	.....	.....	.....	.....	.....	2,139 69
3	Tyce, Ryerson & Co.....	\$33,876 00	.....	5,780 00	\$700 00	.....	.....	.....	.....
4	Colegate, Coffin & Co.....	.....	.....	.....	.....	.....	.....	.....	2,886 97
5	John A. Higgins.....	.....	850 00	.....	1,242 50	\$890 00	\$497 40	\$279 40	.....
6	Wm. Lang.....	.....	.....	6,163 25	632 50	.....	.....	.....	.....
7	Caleb Bonsal.....	46,670 00	1,000 00	.....	1,335 00	1,120 00	578 20	266 00	.....
8	Storer & Stephenson.....	*33,727 50	*725 00	*5,635 00	*614 00	*790 00	*475 80	*201 80	*1,973 65
9	F. W. Lincoln.....	34,390 19	.....	.....	.....	.....	.....	.....	.....

* Accepted.

No. 6.

Scale of offers to furnish metals at the navy yard, Philadelphia, under advertisement of May 11, 1854.

	Bidders.	Class 1.	Class 3.	Class 10.
		Copper.	Iron.	Hardware.
1	Jos. R. Anderson.....		*\$1,640 00	
2	Storer & Stephenson.....	*\$24,837 75	1,665 00	*\$1,536 90
3	Michael Wise.....	27,597 50		
4	John A. Higgins.....	31,540 00	2,920 00	
5	Caleb Bonsal.....	39,425 00	4,100 00	
6	Jas. Leslie, jr.....		2,650 00	1,607 65
7	Wm. Lang.....		1,824 50	
8	F. W. Lincoln.....	25,153 15		

* Accepted.

No. 7.

Scale of offers to furnish metals at the navy yard, Washington, under advertisement of May 11, 1854.

Bidders.		Class 3.	Class 4.	Class 5.	Class 6.	Class 7.	Class 8.	Class 9.	Class 10.
		Iron.	Nails.	Lead.	Tin and zinc.	Brass.	Pig iron.	Tank iron.	Hardware.
1	Jas. R. Anderson	*\$21,175 80	.....	.....	.....	.....	\$2,500 00	.....	.....
2	H. Abbott.....	.....	.....	.....	.....	.....	.....	\$10,870 00	.....
3	M. B. Buckley.....	.....	.....	.....	.....	.....	2,000 00	*10,437 50	.....
4	Jno. Ellicott, jr.....	.....	.....	.....	.....	.....	2,062 50	.....	.....
5	Thompson & Ondersluys .....	.....	.....	.....	.....	.....	2,122 00	11,072 00	.....
6	George Gardner & Co.....	28,819 00	.....	.....	.....	.....	.....	.....	.....
7	B. H. Ellicott	24,029 78	.....	.....	.....	.....	.....	.....	.....
8	Jas. Leslie, jr .....	.....	.....	.....	.....	.....	.....	.....	.....
9	E. Wheeler .....	.....	\$300 00	.....	.....	\$300 00	.....	.....	\$379 80
10	Caleb Bonsal.....	.....	450 00	\$75 00	\$9,860 00	400 00	*1,920 00	.....	*339 36
11	John A. Higgins.....	.....	450 00	60 00	9,262 00	455 00	.....	.....	.....
12	Storer & Stephenson.....	.....	*297 00	*40 00	*7,542 50	*298 00	1,950 00	.....	.....

* Accepted.

No. 8.

Scale of offers to furnish metals at the navy yard, Gosport, under advertisement of May 11, 1854.

	Bidders.	Class 1.	Class 2.	Class 3.	Class 4.	Class 5.	Class 6.	Class 7.	Class 8.	Class 10.
		Copper.	Composition.	Iron.	Iron spikes and nails.	Lead.	Tin and zinc.	Brass.	Pig iron.	Hardware.
1	Jos. R. Anderson	.....	.....	\$14,252 50	.....	.....	.....	.....	.....	.....
2	Storer & Stephenson	*\$21,258 00	*\$1,238 00	*14,006 25	\$1,010 50	\$1,140 00	\$1,830 00	*\$342 40	*\$200 00	.....
3	John A. Higgins	.....	4,570 00	.....	1,381 00	*1,052 50	*1,565 00	513 60	260 00	*\$4,293 00
4	Caleb Bonsall	26,610 00	4,361 25	14,128 00	*1,002 75	1,054 50	1,660 00	480 00	222 50	7,974 50
5	Hollingsworth & Co.	22,908 00	.....	.....	.....	.....	.....	.....	.....	.....
6	John Abbott	.....	.....	†Informal	.....	.....	.....	.....	.....	.....
7	E. Wheeler	.....	.....	16,218 50	.....	.....	.....	.....	.....	.....
8	Wm. Lang	.....	.....	16,349 00	1,122 50	.....	.....	.....	275 00	.....
9	J. H. Stickney	.....	.....	.....	.....	.....	.....	.....	212 50	.....
10	Jas. Leslie, jr.	.....	.....	.....	.....	1,208 26	1,694 50	368 80	.....	.....
11	E. J. Griffith	.....	6,033 75	.....	1,259 25	1,165 00	.....	428 00	.....	4,441 45
12	F. W. Lincoln & Co.	21,421 50	.....	.....	.....	.....	.....	.....	.....	.....

* Accepted.

†Offers for part of class.

No. 9.

Scale of offers to furnish metals at the navy yard, Pensacola, under advertisement of May 11, 1854.

	Bidders.	Class 1.	Class 2.	Class 3.	Class 6.	Class 7.	Class 10.
		Copper.	Composition.	Iron.	Tin and zinc.	Brass.	Hardware.
1	Jos. R. Anderson .....	.....	.....	*\$150 00	.....	.....	.....
2	F. W. Lincoln	\$9,526 87	.....	.....	.....	.....	.....
3	Wm. Lang .....	.....	.....	240 00	.....	.....	.....
4	A. L. Avery	8,914 25	\$975 00	150 00	\$100 00	*\$31 50	*\$176 29
5	Storer & Stephenson	*7,676 50	*825 00	170 00	*62 50	55 00	228 20
6	John A. Higgins	11,482 25	1,650 00	240 00	125 00	71 00	.....

*Accepted.

No. 3 awarded by lot.

No. 10.

Scale of offers to furnish miscellaneous materials at the navy yard, Charlestown, under advertisement of May 11, 1854.

	Bidders.	Class 1. Paints and oils.	Class 2. Flax canvas.	Class 3. Cotton canvas.	Class 4. Flax and cotton twine.	Class 5. Glass.	Class 6. Oakum.	Class 7. Leather.
1	Horton, Hall & Co	*\$2,742 10	.....	.....	*\$491 00	*\$14 25	*\$1,000 00	*\$246 00
2	John A. Higgins	4,272 50	.....	.....	880 00	.....	.....	450 00
3	J. G. Kidder .....	.....	.....	.....	.....	.....	.....	.....
4	Southard, Herbert & Co .....	.....	.....	.....	.....	.....	.....	.....
5	Samuel Engle .....	.....	.....	.....	.....	.....	.....	.....
6	Storer & Stephenson .....	.....	\$11,937 50	.....	.....	.....	.....	.....
7	Hunneman, Hazen & Co	2,847 80	.....	.....	.....	.....	.....	.....
8	Caleb Bonsal .....	.....	.....	.....	.....	.....	.....	500 00
9	William Lang	2,876 15	.....	.....	.....	.....	.....	.....
10	McKim & Cutter .....	.....	.....	.....	.....	.....	.....	.....
11	John E. Doyle .....	.....	.....	*\$2,732 20	.....	.....	1,900 00	.....
12	William Mason & Son .....	.....	11,126 25	.....	.....	.....	.....	.....
13	Lewis Timberlake .....	.....	*10,362 50	.....	.....	.....	.....	.....
14	William Braud & Co .....	.....	.....	.....	.....	.....	.....	.....

* Accepted.

No. 10--Continued.

	Bidders.	Class 8. Hose.	Class 9. Brushes.	Class 10. Dry goods.	Class 11. Sperm oil and candles.	Class 12. Stationery.	Class 13. Pitch, tar, &c.	Class 14. Ship chandlery.
1	Horton, Hall & Co.....	*\$294 00	*\$139 50	*\$437 00	\$1,575 00	.....	*\$5,328 75	\$10,155 70
2	John A. Higgins.....	.....	225 00	875 00	2,070 00	.....	6,655 00	12,221 00
3	J. G. Kidder.....	.....	.....	.....	1,530 00	.....	.....	.....
4	Southard, Herbert & Co.....	.....	.....	.....	*1,481 00	.....	.....	.....
5	Samuel Engle.....	.....	.....	.....	.....	.....	.....	.....
6	Storer & Stephenson.....	.....	.....	.....	.....	.....	5,368 40	.....
7	Hunneman, Hazen & Co.....	.....	.....	.....	.....	.....	.....	*8,917 00
8	Caleb Bonsal.....	.....	225 00	.....	.....	.....	6,705 00	.....
9	William Lang.....	.....	.....	.....	2,375 00	.....	.....	.....
10	McKim & Cutter.....	.....	.....	.....	.....	*\$772 10	.....	+ Informal.
11	John E. Doyle.....	.....	.....	.....	.....	.....	.....	.....
12	William Mason & Son.....	.....	.....	.....	.....	.....	.....	.....
13	Lewis Timberlake.....	.....	.....	.....	.....	.....	.....	.....
14	William Brand & Co.....	.....	.....	.....	.....	.....	.....	.....

* Accepted.

† Informal; offers for part of class.

No. 11.

Scale of offers to furnish miscellaneous materials at the navy yard at Brooklyn, under advertisement of May 11, 1854.

	Bidders.	Class 1.	Class 2.	Class 3.	Class 4.	Class 5.	Class 7.
		Paints and oil.	Flax canvas.	Cotton canvas.	Flax and cotton twine.	Glass.	Leather.
1	Storer & Stephenson.....	*\$6,228 00	\$26,312 56	\$9,639 00	*\$590 00	*\$351 70	\$180 00
2	William Mason & Son.....	.....	.....	*9,248 25	.....	.....	.....
3	William Brand & Co.....	.....	*24,299 00	.....	.....	.....	.....
4	Lewis Timberlake.....	.....	26,198 65	.....	.....	.....	.....
5	C. S. Storms.....	6,333 65	.....	.....	606 00	.....	*123 00
6	Tyce, Ryerson & Co.....	7,586 50	.....	.....	.....	.....	.....
7	John A. Higgins.....	9,206 00	.....	.....	1,050 00	.....	260 00
8	J. G. Kidder.....	.....	.....	.....	.....	.....	.....
9	William Lang.....	7,155 35	.....	.....	.....	.....	.....
10	John C. Bowie & Co.....	.....	.....	.....	.....	.....	203 00
11	Caleb Bonsal.....	.....	.....	.....	.....	.....	360 00
12	Samuel Engle.....	.....	.....	.....	.....	.....	.....
13	Nathan Lane & Co.....	.....	.....	.....	.....	.....	.....
14	Southard, Herbert & Co.....	.....	.....	.....	.....	.....	.....
15	George C. Glazier.....	.....	.....	.....	.....	.....	.....

* Accepted.

No. 11—Continued.

	Bidders.	Class 8.	Class 10.	Class 11.	Class 12.	Class 13.	Class 14.
		Hose.	Dry goods.	Sperm oil and candles.	Stationery.	Pitch, tar, &c.	Ship chandlery.
1	Storer & Stephenson.....	\$1,200 00	*\$1,722 00	*\$2,652 00	.....	\$850 00	*\$2,567 50
2	William Mason & Son.....	.....	.....	.....	.....	.....	.....
3	William Brand & Co.....	.....	.....	.....	.....	.....	.....
4	Lewis Timberlake.....	.....	.....	.....	.....	.....	.....
5	C. S. Storms.....	640 00	1,745 70	2,712 50	.....	*\$21 00	.....
6	Tyce, Ryerson & Co.....	.....	2,506 50	4,190 00	.....	.....	2,746 00
7	John A. Higgins.....	1,600 00	3,335 50	3,622 50	.....	1,340 00	.....
8	J. G. Kidder.....	.....	.....	2,911 00	.....	.....	.....
9	William Lang.....	.....	.....	.....	.....	.....	.....
10	John C. Bowie & Co.....	*520 00	.....	.....	.....	.....	.....
11	Caleb Bonsal.....	2,000 00	4,490 00	5,440 00	.....	1,050 00	.....
12	Samuel Engle.....	.....	.....	.....	*\$530 77	.....	.....
13	Nathan Lane & Co.....	.....	.....	.....	.....	.....	.....
14	Southard, Herbert & Co.....	.....	.....	2,818 00	.....	.....	.....
15	George C. Glazier.....	.....	.....	.....	.....	.....	2,815 10

* Accepted.

Report of the Board of Commissioners of the State of New York, for the year ending December 31, 1881.

Vol. II.

No 12.

Scale of offers to furnish miscellaneous materials at the navy yard, Philadelphia, under advertisement of May 11, 1854.

	Class 1.	Class 2.	Class 3.	Class 4.	Class 6.	Class 10.	Class 11.	Class 13.	Class 14.
Bidders.	Paints and oil.	Flax canvas.	Cotton canvas.	Flax and cotton twine.	Oakum.	Dry goods.	Sperm oil and candles.	Pitch, tar, &c.	Ship chandlery.
1 Wm. Mason & Son .....	.....	.....	.....	\$107 75	.....	.....	.....	.....	.....
2 Storer & Stephenson	*\$673 10	\$11,046 00	*\$4,403 82	*105 59	*\$1,275 00	*\$20 00	\$60 00	*\$315 00	*\$253 65
3 Michael Wise	747 79	.....	4,848 30	107 75	3,600 00	.....	*39 00	348 00	277 68
4 John A. Higgins	813 80	.....	.....	258 60	.....	60 00	90 00	620 00	429 60
5 Caleb Bonsal .....	.....	.....	.....	344 80	.....	100 00	120 00	660 00	474 90
6 John E. Doyle .....	.....	.....	.....	.....	2,000 00	.....	.....	.....	.....
7 Lewis Timberlake .....	.....	10,264 45	.....	.....	1,975 00	.....	.....	.....	.....
8 Wm. Brand & Co. ....	.....	*9,817 50	.....	.....	.....	.....	.....	.....	.....
9 N. Dunn .....	.....	.....	.....	.....	.....	.....	.....	600 00	.....
10 Samuel Engle .....	.....	.....	.....	.....	.....	.....	.....	391 30	.....

* Accepted.

No. 13

Scale of offers to furnish miscellaneous materials at the navy yard, Washington, under advertisement of May 11, 1854.

	Bidders.	Class 1.	Class 6.	Class 11.	Class 13.	Class 14.	Charcoal.
		Paints and oil.	Oakum.	Sperm oil and candles.	Pitch, tar, &c.	Ship chandlery.	
1	John E. Doyle.....	.....	\$246 87	.....	.....	.....	.....
2	Howell & Morsell.....	\$374 25	200 00	.....	*\$125 00	*61 75	.....
3	Josiah B. Bowman.....	.....	.....	.....	.....	.....	*\$200 00
4	Philip Otterback.....	.....	.....	.....	.....	.....	264 00
5	John A. Higgins.....	535 00	.....	\$430 00	210 00	152 50	.....
6	Storer & Stephenson.....	*342 00	*159 37	*295 00	155 00	.....	.....
7	Nathaniel Dunn.....	.....	.....	.....	240 00	.....	.....

* Accepted.

Copy A sent to various miscellaneous stores on 12th and 13th days of May 1854.

1854

No. 14.

Scale of offers to furnish miscellaneous materials at the navy yard, Gosport, under advertisement of 11th May, 1854.

	Bidders.	Class 1.	Class 2.	Class 3.	Class 4.	Class 5.	Class 7.
		Paints and oil.	Flax canvass.	Cotton canvass.	Flax and cotton twine.	Glass.	Leather.
1	Wm. Mason & Son.....			*\$7,697 85			
2	Storer & Stephenson.....	*\$6,555 00	\$21,030 00	9,140 00	\$1,180 00	\$3,353 00	*\$1,610 00
3	John A. Higgins.....	7,162 25			*1,159 00	*3,241 00	2,151 00
4	J. R. C. Barclay.....						
5	Vickery & Griffith.....						
6	Nathan Lane & Co.....						
7	Caleb Bonsal.....	7,471 00			1,500 00		2,466 00
8	Samuel Engle.....						
9	Elisha Gammage.....						
10	Southard, Herbert, & Co.....						
11	Lewis Timberlake.....		19,304 70				
12	Brand & Co.....		*18,315 00				

* Accepted.

No. 14—Continued.

	Bidders.	Class 8.	Class 9.	Class 10.	Class 11.	Class 12.	Class 13.	Class 14.
		Hose.	Brushes.	Dry goods.	Sperm oil and candles.	Stationery.	Pitch, tar, &c.	Ship chandlery.
1	Wm. Mason & Son.....	\$5,000 00	\$1,423 83	\$3,905 00	*\$5,964 00	.....	*\$1,523 00	.....
2	Storer & Stephenson.....	*4 800 00	1,406 58	*3,423 50	8,388 75	.....	1,768 00	\$5,064 75
3	John A. Higgins.....	.....	.....	.....	.....	.....	.....	*4,805 08
4	J. R. C. Barclay.....	.....	.....	.....	.....	*\$758 59	.....	.....
5	Vickery & Griffith.....	.....	.....	.....	.....	933 19	.....	.....
6	Nathan Lane & Co.....	.....	.....	.....	.....	847 55	.....	.....
7	Caleb Bonsal.....	.....	.....	.....	.....	.....	.....	.....
8	Samuel Engle.....	5,015 00	*1,295 58	3,571 00	7,992 00	.....	1,685 00	5,868 57
9	Elisha Gammage.....	.....	.....	.....	.....	.....	1,689 95	.....
10	Southard, Herbert, & Co.....	.....	.....	.....	.....	.....	1,583 75	.....
11	Lewis Timberlake.....	.....	.....	.....	6,010 40	.....	.....	.....
12	Brand & Co.....	.....	.....	.....	.....	.....	.....	.....

* Accepted.

Wm. Mason & Son
Storer & Stephenson
John A. Higgins
J. R. C. Barclay
Vickery & Griffith
Nathan Lane & Co
Caleb Bonsal
Samuel Engle
Elisha Gammage
Southard, Herbert, & Co
Lewis Timberlake
Brand & Co

No. 15.

Scale of offers to furnish miscellaneous materials at the navy yard, Pensacola, under advertisement of May 11, 1854.

	Bidders.	Class 1.	Class 5.	Class 10.	Class 11.	Class 14.
		Paints & oil.	Glass.	Dry goods.	Sperm oil & candles.	Ship chandlery.
1	Southard, Herbert & Co.....				\$2,310 00	.....
	John A. Higgins	\$2,324 00	.....	\$37 50	3,500 00	.....
3	A. L. Avery.....	1,272 00	*\$100 00	30 00	2,250 00	*\$199 00
4	C. P. Knapp	1,585 50	.....	*22 50	2,740 00	.....
	Storer & Stephenson..	*1,247 00	100 00	75 00	*2,050 00	386 00

* Accepted.

No. 5 awarded by lot.

An offer was received on the 27th June from Jno. B. Todd for class 1, being after the time limited for the reception of bids.

No. 16.

Scale of offers to furnish timber, &c., at the navy yard, Kittery, Maine, under advertisement of May 11, 1854.

	Bidders.	Class 2.	Class 4.	Class 5.	Class 10.	Class 13.
		White oak.	Yellow pine.	White pine.	White ash oars & hickory capstan bars.	Spar timber.
1	John H. Broughton..	.....	.....	\$2,350 00	.....	.....
2	S. G. Bogert	*\$42,540 00	\$26,245 00	1,500 00	\$265 20	*\$1,946 00
3	G. A. Hammond.....	.....	.....	*1,450 00	.....	.....
4	Mark T. Goodwin...	.....	.....	1,487 50	.....	.....
5	N. W. Coffin.....	.....	29,880 00	.....	.....	.....
6	Thos. Neil.....	.....	.....	.....	*212 16	.....
7	Brown & Trussell...	.....	28,792 50	.....	.....	.....
8	John A. Higgins .....	.....	.....	.....	514 40	.....
9	W. White.....	67,400 00	.....	.....	.....	.....
10	John Mathers.....	.....	.....	2,000 00	.....	.....
11	Jas. A. Bill.....	.....	*22,792 50	.....	.....	2,085 00

* Accepted.

An offer was received from Jos. Grice for classes 2, 4, 5, 10, and 13, on the 22d June, being after the time limited for the reception of bids.

No. 17.

Scale of offers to furnish timber, &c., at the navy yard at Charlestown, Massachusetts, under advertisement of 11th May, 1854.

	Bidders.	Class 2. White oak.	Class 3. White oak ship- knees.	Class 4. Yellow pine.	Class 5. White pine.	Class 6. Ash, elm, and cypress.	Class 11. Staves and heading.	Class 14. Fire-wood.
1	S. & E. Knight.....	.....	.....	.....	.....	.....	.....	\$750 00
2	Oakman & Eldridge.....	.....	.....	.....	.....	.....	.....	*675 00
3	Nathaniel Dunn.....	.....	.....	.....	.....	\$600 00	*\$1,750 00	.....
4	James A. Bill.....	.....	.....	*\$6,982 50	.....	.....	.....	.....
5	William White.....	\$46,600 00	.....	.....	.....	.....	.....	.....
6	Brown & Trussell.....	.....	.....	8,330 00	.....	.....	.....	.....
7	S. G. Bogert.....	*20,000 00	*\$1,500 00	11,025 00	*\$800 00	*500 00	2,000 00	.....
8	N. W. Coffin.....	.....	.....	11,025 00	1,500 00	.....	.....	.....

* Accepted.

An offer was received on the 22d June, from Joseph Grice, for classes 2, 3, 4, 5, 6, and 11, being after the time limited for the reception of bids.

No 18.

Scale of offers to furnish timber, &c., at the navy yard at Brooklyn, New York, under advertisement of May 11, 1854.

	Bidders.	Class 2. White oak.	Class 3. White oak ship- knees.	Class 4. Yellow pine.	Class 5. White pine.	Class 6. Ash, elm, cypress.	Class 7. Mahogany, black walnut, cherry, poplar.
1	Storer & Stephenson.						
2	C. S. Storms.						
3	John A. Higgins.						
4	Wm. Lang.						
5	Caleb Bonsal.						
6	Oakman & Eldridge.						
7	Peck & Church.			\$24,110 00	*\$5,555 50	\$1,190 00	
8	S. G. Bogert.	*\$45,420 00	\$5,304 00	*22,610 00	5,979 00	1,465 00	*\$1,299 50
9	Jerome Ryerson.					1,405 00	1,694 12
10	Joseph Grace.			27,260 00			
11	Thos. McCarty.						
12	Job Carver.			27,640 00			
13	N. Dunn.					2,020 00	
14	F. A. Southmayd.		*4,760 00			*1,137 00	
15	George Crosby.						2,036 50
16	Brown & Trussell.			27,170 00			
17	Sam'l P. Brown.						
18	Brown & Trussell.						
19	Jas. A. Bill.			23,358 00			
20	Isaac F. Snow.						
21	J. Bigler.				5,760 00		

No 18 Accepted.

No. 18—Continued.

Bidders.		Class 8.	Class 9.	Class 10.	Class 11.	Class 12.	Class 13.	Class 14.
		Locust and red cedar.	Lignumvitæ.	White-ash oars and hickory capstan bars.	Staves and heading.	Black spruce spars.	Spar timber.	Fire-wood.
1	Storer & Stephenson							*\$2,475 00
2	C. S. Storms							3,600 00
3	John A. Higgins		\$890 00					
4	Wm. Lang		*500 00					
5	Caleb Bonsal		1,400 00					
6	Oakman & Eldridge					\$2,360 00		
7	Peck & Church							
8	S. G. Bogert	*\$435 00	1,000 00	*\$272 00	*\$780 00	2,100 00	*\$5,484 10	4,150 00
9	Jerome Ryerson	507 00		401 50		3,605 00		
10	Joseph Grice							
11	Thos. McCarty							2,803 10
12	Job Carver							
13	N. Dunn				895 00			
14	F. A. Southmayd			311 00		2,425 00		
15	George Crosby	522 00		424 00		3,780 00		2,772 75
16	Brown & Trussell							
17	Sam'l P. Brown					*\$1,590 00		
18	Brown & Trussell						6,398 00	
19	Jas. A. Bill							
20	Isaac F. Snow					2,400 00		
21	J. Bigler							

* Accepted.

An offer was received from Joseph Grice for classes 2, 3, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, on June 22, being after the time limited for the reception of bids.

No. 19.

Scale of offers to furnish timber, &c., at the navy yard, Philadelphia, under advertisement of May 11, 1854.

	Bidders.	Class 2.	Class 3.	Class 4.	Class 5.	Class 6.	Class 8.	Class 12.	Class 13.	Class 14.
		White oak.	White oak ship-knees.	Yellow pine.	White pine.	Ash, elm, cypress.	Locust, red cedar.	Black spruce spars.	Spar timber.	Fire-wood.
1	N. Dunn.....	.....	.....	.....	.....	\$420 00	*\$100 00	.....	.....	.....
2	Julian M. Burnett.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
3	Peck & Church.....	.....	.....	\$15,580 00	*\$2,800 00	.....	.....	.....	.....	\$1,250 00
4	Brown & Trussell.....	.....	.....	17,052 00	.....	.....	.....	.....	.....	.....
5	S. G. Bogert.....	*\$50,500 00	†\$12,225 00	17,050 00	3,300 00	.....	.....	.....	.....	.....
6	J. Bigler.....	.....	.....	.....	2,940 00	.....	.....	.....	.....	.....
7	Samuel B. Grice.....	54,625 00	.....	18,730 00	3,900 00	595 00	.....	.....	\$11,533 25	†1,000 00
8	Edward H. Herbert.....	.....	.....	*14,640 00	.....	.....	.....	.....	*4,083 00	.....
9	Oakman & Eldridge.....	.....	.....	.....	.....	.....	.....	\$1,350 00	.....	.....
10	Samuel P. Brown.....	.....	.....	.....	.....	.....	.....	*940 00	.....	.....
11	Jos. Westcott.....	.....	.....	.....	.....	.....	.....	1,040 00	.....	.....
12	F. H. Southmayd.....	.....	.....	.....	.....	.....	.....	1,030 00	.....	.....

* Accepted.

† No contract made.

An offer was received from Jos. Grice for classes 2, 3, 4, 5, 6, 8, 12, 13, 14, on the 22d June, being after the time limited for the reception of bids.

No. 20.

Scale of offers to furnish timber, &c., at the navy yard, Washington, under advertisement of May 11, 1854.

	Bidders.	Class 2. White oak.	Class 3. White oak ship- knees.	Class 4. Yellow pine.	Class 5. White pine.	Class 6. Ash, elm, and cypress.	Class 7. Mahog'ny, black walnut, cherry, and poplar.	Class 14. Fire-wood.
1	Peck & Church.....	.....	.....	\$13,330 00	.....	*1,645 00	.....	.....
2	N. Dunn.....	.....	.....	.....	.....	3,300 00	.....	.....
3	A. B. Waller.....	.....	.....	.....	\$4,650 00	(†)	.....	.....
4	J. Bigler.....	.....	.....	.....	*3,802 00	.....	.....	.....
5	S. G. Bogert.....	*\$31,600 00	\$8,400 00	13,050 00	4,052 00	1,880 00	\$700 00	.....
6	Johnson & Walton.....	38,050 00	*7,700 00	13,610 00	.....	1,887 00	.....	.....
7	Jos. Temple.....	.....	.....	*11,920 00	.....	.....	.....	.....
8	Thos. Tatem.....	.....	.....	16,912 00	.....	.....	.....	.....
9	Samuel B. Grice.....	49,500 00	11,500 00	15,642 00	5,580 00	2,155 00	*620 00	\$1,575 00
10	Philip Otterback.....	.....	.....	.....	.....	.....	.....	*701 37
11	Jas. A. Bill.....	.....	.....	(†)	.....	.....	.....	.....

* Accepted.

† Informal.

An offer was received from Jos. Grice for classes 2, 3, 4, 5, and 6, on the 22d of June, being after the time limited for the reception of bids.

No. 21.

Scale of offers to furnish timber, &c., at the navy yard at Gosport, Va., under advertisement of May 11, 1854.

	Bidders.	Class 2.	Class 3.	Class 4.	Class 5.	Class 6.	Class 7.	Class 8.	Class 9.	Class 10.	Class 12.	Class 13.
		White-oak.	White-oak ship-knees.	Yellow-pine.	White-pine.	Ash, elm, cypress.	Mahogany, black walnut, cherry, poplar.	Locust, red cedar.	Lignum-vite.	White ash oars and hickory capstan bars.	Black spruce spars.	Spar timber.
1	John A. Higgins.....								\$560 00	\$1,806 00		
2	Caleb Bonsal.....								720 00			
3	Wm. Lang.....								320 00			
4	Thos. Tatem.....			{†}								
5	Jes. P. Tatem.....			{†}								
6	Peck & Church.....				\$7,237 50							
7	Oakman & Eldridge.....											\$8,753 70
8	Jos. Westcott.....											*7,645 60
9	Saml. P. Brown.....											
0	N. W. Coffin.....											
1	S. G. Bogert.....	\$86,655 00	\$13,000 00	*\$44,965 00	8,075 00			*\$1,000 00			\$2,642 75	
2	Edward H. Herbert.....	93,812 50									*1,492 75	
3	Marsh, Tunis & Co.....				6,706 25	*\$2,384 00	*\$675 00		*280 00		1,905 50	
14	J. Bigler.....				*6,417 50						3,685 25	
15	Philip Otterback.....								360 00			
16	Johnson & Walton.....	*\$1,822 50	*9,800 00	(†)		2,506 00				*1,793 75		

* Accepted.

† Informal.

An offer was received on the 22d of June, from Joseph Grice, for classes 2, 3, 4, 5, 6, 7, 8, 9, 10, 12, and 13, being after the time limited for the reception of bids.

No. 22.

Scale of offers to furnish timber, &c., at the navy yard at Pensacola, under advertisement of May 11, 1854.

		Class 14.
Bidders.		Fuel—wood and charcoal.
1	George G. Paterson.....	\$706 00
2	C. P. Knapp.....	*700 00
3	Storer & Stephenson.....	2,020 00

* Accepted.

LIST OF CONTRACTS—Continued.

Date.	Expiration.	Name of contractor.	Articles.	Rate.	Navy yard where deliverable.
1854. July 15	1855. June 30	William Brand & Co.....	175 bolts No. 4 flax canvas	\$12 90 per bolt....	Philadelphia.
			21 bolts No. 5.....do.....	11 90 do	
			121 bolts No. 6.....do.....	10 80 do	
			173 bolts No. 7.....do.....	9 50 do	
			93 bolts No. 8.....do.....	8 60 do	
			20 bolts flax bagging.....	28 00 do	
			100 bolts No. 1 flax canvas	17 00 do.....	Gosport.
			350 bolts No. 2.....do.....	15 30 do	
			275 bolts No. 3.....do.....	14 20 do	
			150 bolts No. 4.....do.....	13 00 do	
			100 bolts No. 5.....do.....	12 00 do	
			151 bolts No. 6.....do.....	10 90 do	
			110 bolts No. 7.....do.....	9 60 do	
			120 bolts No. 8.....do.....	8 70 do	
			20 bolts light ravens duck.....	8 50 do	
			20 bolts heavy.....do.....	10 00 do	
			10 bolts Russia sheeting	10 00 do	
			2,000 bushels best white-pine or maple charcoal.....	10 per bushel..	Washington.
July 15	June 30	J. B. Bowman	150,000 pounds $\frac{1}{4}$ -inch thick tank plate iron.....	6 per pound.	
July 17	June 30	M. B. Buckley & Son	20,000 pounds $\frac{1}{8}$ by $1\frac{1}{2}$ -inch boiler rivets	6 $\frac{1}{4}$ do	
			3,000 pounds $\frac{1}{8}$ by $2\frac{1}{4}$ -inch.....do.....	6 $\frac{1}{4}$ do	
			(Iron, as per dimensions.)		
			60 gallons fish oil	65 per gallon..	Philadelphia
July 17	June 30	Michael Wise.....	6,000 pounds white F. zinc, in oil	9 $\frac{1}{2}$ per pound..	Charlestown.
July 17	June 30	Horton, Hall & Co.....	10,000 pounds white lead, dry	8 $\frac{1}{2}$ do	
			3,000 pounds red lead.....	7 $\frac{1}{2}$ do	
			500 pounds litharge	3 do	
			18 pounds vermilion.....	1 50 do	
			8 pounds Prussian blue	20 do	
			5,000 pounds whiting.....	1 do	

2,000 pounds putty.....	1½	do
10 pounds umber.....	10	do
200 gallons spirits turpentine.....	65	per gallon..
10 gallons coach varnish.....	3 00	do
1,000 gallons paint oil.....	80	do
1,000 pounds flax twine.....	37	per pound.
500 pounds cotton twine.....	20	do
60 pounds seine twine.....	35	do
3 plates of glass, for binnacles.....	4 75	each.
10,000 pounds oakum, best quality.....	10	per pound.
500 pounds rigging leather.....	28	do
200 pounds pump leather.....	8	do
200 pounds bellows leather.....	45	do
300 feet hose.....	98	per foot.
75 whitewash brushes.....	1 24	each.
75 paint brushes.....	62	do
30 pounds thread, assorted.....	1 00	per pound.
100 yards muslin.....	11	per yard.
200 yards carpeting.....	1 98	do
75 barrels pitch.....	2 50	per barrel.
1,000 barrels thin tar.....	4 95	do
25 barrels rosin.....	2 25	do
30 barrels No. 1 turpentine.....	4 50	do
1,000 pounds composition spikes, 6-inch.....	20	per pound.
2,000 pounds.....do.....7-inch.....	32	do
5,000 pounds.....do.....8-inch.....	26	do
4,000 pounds composition sheathing nails, 14 inch long.....	28	do
3,000 pounds ship spikes, 5 inches long.....	3¾	do
2,000.....do.....5½.....do.....	4¾	do
2,000.....do.....6.....do.....	6	do
1,000.....do.....7.....do.....	6	do
2,000.....do.....7½.....do.....	6	do
1,000.....do.....8.....do.....	3	do
10,000 pounds sheet lead, assorted.....	8½	do
5,000 pounds pipe lead, assorted.....	6¾	do
14 boxes XX sheet tin.....	15 00	per box.
5 boxes S. D. sheet tin.....	18 00	do
3,000 pounds block tin.....	37	per pound.
3,000 pounds pig zinc.....	8	do

LIST OF CONTRACTS—Continued.

Date	Expiration.	Name of contractor.	Articles.	Rate.	Navy yard where deliverable.
1854. July 17	1855. June 30	Horton, Hall, & Co.....	2,000 pounds sheet zinc..... 300 pounds brass wire, assorted..... 200 pounds sheet brass, assorted..... 3 dozen 4½ by 4-inch mortise locks, with mineral knobs, ½ inch thick..... 2 dozen 4-inch brass cupboard locks..... 2 dozen 6-inch brass closet locks..... 4 dozen 2¾-inch drawer locks, iron..... 4 dozen 2¾-inch drawer locks, brass..... 1 dozen 4-inch chest locks, iron..... 4 dozen 4-inch door hooks, brass..... 2 dozen 6-inch.....do..... 2 dozen 6-inch flush bolts, brass..... 1 dozen 4-inch.....do..... 2 dozen 3-inch brass padlocks..... 2 dozen pairs 4 by 4-inch brass butt hinges..... 2.....do.....3½ by 3-inch.....do..... 2.....do.....2½ by 2-inch.....do..... 2.....do.....2 by 2-inch.....do..... 2.....do.....1¾ by 1¾-inch.....do..... 2 dozen pairs secretary drawer hinges and ketches, brass..... 2 gross 2-inch No. 20 brass screws..... 4 gross 1¾-inch No. 16.....do..... 4 gross 1¾-inch No. 14.....do..... 6 gross 1½-inch No. 12.....do..... 1 gross 1-inch No. 8.....do..... 4 gross ¾-inch No. 6.....do..... 4 gross ¾-inch No. 5.....do..... 10 gross 1¾-inch iron screws, No. 16..... 10 gross 1½-inch.....do.....No. 14.....	\$0 10 per pound.. 40 do 25 do 6 00 per dozen. 2 00 do 7 50 do 1 50 do 1 50 do 6 00 do 3 50 do 4 50 do 1 12 do 1 83 do 13 50 do 12 00 per doz. pairs 7 50 do 4 00 do 3 40 do 3 25 do 15 00 do 1 00 per gross. 2 88 do 1 12 do 1 00 do 2 00 do 57 do 52 do 77 do 58 do	Charlestown.

6 gross 1½-inch.....do.....	No. 12	44	do
12 gross 1-inch.....do.....	No. 13	18	do
10 gross ¾-inch.....do.....	No. 8	25	do
10 gross ⅝-inch.....do.....	No. 6	20	do
5 gross ½-inch.....do.....	No. 3	16	do
50,000 1-inch clout nails.....		12	per. M.
100 pounds 4-penny cut copper nails.....		45	per pound.
100 pounds 8-penny.....do.....		45	do
200 pounds 10-penny.....do.....		25	do
100 pounds 20-penny.....do.....		45	do
100 pounds China glue.....		20	do
100 pounds 3-penny iron cut nails.....		6	do
100 pounds 4-penny.....do.....		6	do
200 pounds 6-penny.....do.....		5	do
300 pounds 8-penny.....do.....		5	do
1,200 pounds 10-penny.....do.....		5	do
200 pounds 12-penny.....do.....		5	do
100 pounds 30-penny.....do.....		6	do
100 pounds 40-penny.....do.....		6	do
100 pounds 6-penny.....do.....		6	do
200 pounds 8-penny.....do.....		6	do
100 pounds 8-penny wrought-iron nails.....		10	do
200 pounds 10-penny.....do.....		7	do
10,000 2-inch iron brads.....		35	per M.
10,000 1¾-inch.....do.....		35	do
5,000 1½-inch.....do.....		30	do
5,000 1-inch.....do.....		30	do
5,000 ¾-inch.....do.....		25	do
1 anvil.....		15	00
4 cooper's callipers.....		1	25 per piece.
30 hammers.....		62	do
30 planes, assorted.....		1	00 do
4 cooper's jointers.....		1	50 do
2 glue kettles.....		1	00 do
12 iron dividers, cooper's.....		13	do
4 pitch kettles, 50 gallons each.....		2	00 do
3 turning lathes.....		30	00 do
1 set turning tools.....		5	00 do
12 carpenter's rules, 2 feet.....		62	do

LIST OF CONTRACTS—Continued.

Date.	Expiration.	Name of contractor.	Articles.	Rate.	Navy yard where deliverable.
1854. July 17	1855. June 30	Horton, Hall & Co.....	25 rasps	\$0 37 per piece....	Charlestown.
			3 gauging rods.....	1 51 do	
			6 screwdrivers	62 do	
			20 spoke-shaves.....	38 do	
			6 trying squares	63 do	
			20,000 scupper nails.....	1 25 per M.	
			30 pounds copper wire.....	50 per pound.	
			2 sets tin scales.....	6 00 each.	
			2 steel spring-scales.....	1 00 do	
			150 pounds copper rivets, boat.....	45 per pound.	
			2 glazing diamonds.....	4 50 per piece.	
1853. Sept. 22	1854. Feb. —	Merrick & Sons.....	San Jacinto, making and placing in boiler, &c.....	70,000 00.....	Philadelphia.
1854. July 18	1855. June 30	R. C. Barclay	48 reams foolscap paper, ruled.....	2 50 per ream....	Gosport.
			22 reams letter paper.....	3 00 do	
			16 reams log paper.....	5 50 do	
			8 reams envelope paper.....	2 75 do	
			3 reams blotting paper.....	2 00 do	
			70 sheets drawing paper, elephant	12 per sheet.	
			48 sheets drawing paper, double elephant	16 do	
			1 dozen blank log books	60 00 per dozen.	
			2 dozen blank expenditure books.....	24 00 do	
			1 dozen blank 3-quire receipt books.....	9 00 do	
			1 dozen blank 3-quire letter books.....	9 00 do	
			2 dozen blank 2-quire books.....	3 60 do	
			24 dozen blank memorandum books.....	1 00 do	
			1,000 blank monthly returns.....	8 00 per M.	
			1,000 blank weekly returns.....	8 00 do	
			850 blank requisitions	5 00	

July 18	June 30	John A. Higgins.....	50 sandboxes.....	1 00	per dozen.
			2 dozen pounce boxes.....	48	do
			5 dozen inkstands.....	3 00	do
			3 dozen ink powders.....	50	do
			212 bottles black ink, (pint each).....	1 75	do
			168 bottles red ink, (half-pint each).....	1 75	do
			125 pound papers black sand.....	1	per pound.
			3 cases mathematical instruments.....	3 00	per case.
			9 boxes water colors, paints.....	1 00	per box.
			7 dozen penknives, (Congress).....	8 00	per dozen.
			1 dozen paper knives.....	1 50	do
			24 gross steel pens.....	75	per gross.
			3 dozen steel pens, on cards.....	1 80	per dozen.
			6,000 opaque quills.....	1 00	per M.
			60 dozen Faber's black lead pencils, Nos. 1, 2, 3.....	37½	per dozen.
			2,000 slate pencils.....	25	per hundred.
			1 dozen wafer seals.....	1 50	per dozen.
			1 dozen parallel rulers.....	6 00	do
			½ dozen rolling rulers.....	3 00	do
			288 pieces red tape.....	2	per piece.
			25 Gunter's scales.....	33	each.
			44 bolts taste.....	48	per dozen.
			20 pounds wafers.....	38	per pound.
			10 pounds sealing wax.....	50	do
			16 pounds prepared India rubber.....	75	do
			1 dozen erasers.....	2 25	per dozen.
			1,500 pounds flax twine.....	50	per pound.
			650 pounds cotton twine.....	50	do
			210 pounds whipping twine.....	40	do
			3,000 feet double thick crown glass, 14 by 16.....	50	per foot.
			500.....do.....14 by 18.....	50	do
			500.....do.....do.....16 by 22.....	50	do
			500 glass lights.....	2 00	per glass.
			60 straight deck lights, 10 inches long, 3 inches wide.....	2 00	do
			4 dozen patent deck lights.....	15 00	per dozen.
			1 dozen magazine glasses, 10 inches diameter, 1½ inch thick, (to be of clear glass).....	36 00	do
			1 dozen magazine glasses, 12 inches diameter, 1½ inch thick, (to be of clear glass).....	36 00	do

LIST OF CONTRACTS—Continued.

Date.	Expiration.	Name of contractor.	Articles.	Rate.	Navy yard where deliverable.
1854. July 18	1855. June 30	John A. Higgins	1,500 feet leading hose, (in 50 feet lengths)..... 500 feet suction hose, (in 6 feet lengths)..... 40 pieces white bunting..... 45 pieces red bunting..... 25 pieces blue bunting..... 10 pieces yellow bunting..... 10 pieces green bunting..... 5 pieces black bunting..... 100 yards domestic cotton..... 10 yards blue nankeen..... 40 pounds thread, blue, white, red, green, and yellow, No. 25, assorted..... 500 pounds 4-pound thread..... 300 pounds 6-pound thread..... 200 pounds 8-pound thread..... 50 pounds shoe thread, No. 12..... 100 yards black cotton velvet..... 3 pieces hair-cloth, 24, 26, and 28 inches wide, say 120 yards. 100 yards fearnaught..... 400 pounds bat-cotton..... 50 spools spool-cotton, No. 20..... 300 yards green baize..... 80 yards linen osnaburgs, double width..... 2,800 pounds tallow..... 1,150 pounds beeswax..... 1,000 (83½ dozen) hickory brooms..... 1,000 (83½ dozen) corn brooms..... 2 dozen narrow axes..... 50 pounds mop-yarn..... 300 fishing-lines, (25 dozen).....	\$1 90 per foot. 3 90 do 9 00 per piece. 9 00 do 9 00 do 9 00 do 9 00 do 9 00 do 15 per yard. 25 do 1 25 per pound. 1 25 do 1 25 do 1 25 do 1 00 do 37 per yard. 2 00 do 1 00 do 20 per pound. 6 per spool. 1 00 per yard. 1 00 do 20 per pound. 45 do 3 00 per dozen. 6 00 do 35 00 do 75 per pound. 4 50 per dozen.	Gosport.

500 fishing-hooks, assorted, (41½ dozen).....	30	do
25 shoemaker's knives, (2½ dozen).....	3 00	do
1,600 sail-needles, assorted, (133½ dozen).....	1 00	do
150 mounted palms, (12½ dozen).....	12 00	do
44 papers sewing-needles, assorted.....	25	per paper.
750 ship scrapers.....	12 00	per dozen.
80 shovels.....	15 00	do
60 spades.....	15 00	do
5 seines of tanned flax, with bag and fixtures complete, (40 fathoms each).....	3 00	per fathom.
40 hanks of stout cod-lines.....	1 50	per hank.
40 hanks cod-lines.....	1 50	do
2 dozen silver calls.....	60 00	per dozen.
1,000 seaming needles.....	60	do
1 dozen slates.....	4 00	do
3 dozen log slates.....	12 00	do
15 pounds rotten-stone.....	50	per pound.
200 pounds lamp-wick yarn.....	50	do
50 casks lime.....	1 50	per cask.
12 bundles cooper's flags.....	50	per bundle.
48 sheets horn, for lanterns.....	12½	per sheet.
8 dozen life-preservers.....	40 00	per dozen.
250 pounds glue.....	25	per pound.
25 pounds borax.....	50	do
1,000 pounds sheet lead, 3 pounds per foot.....	10	do
2,000.....do.....4.....do.....	10	do
2,000.....do.....5.....do.....	9	do
3,000.....do.....6.....do.....	9	do
2,400 pounds lead pipe (different sizes).....	10	do
250 pounds brass solder.....	25	do
1,200 pounds block tin.....	35	do
1,000 pounds slat zine.....	16	do
30 boxes single tin, 10 by 14.....	11 00	per box.
10 boxes X tin.....do.....	12 50	do
30 boxes XX tin.....do.....	15 00	do
5 boxes XXX tin.....do.....	16 00	do
8 dozen ivory white knob mortise locks, 5 by 3½ inches.....	30 00	per dozen.
18 dozen ivory white knobs.....	7 50	do
10 dozen mineral white knob mortise locks, 5 by 3½ inches...	20 00	do

LIST OF CONTRACTS—Continued.

Date.	Expiration.	Name of contractor.	Articles.	Rate.	Navy yard where deliverable.
1854. July 18	1855. July 30	John A. Higgins.....	20 dozen mineral knobs..... 14 dozen brass cupboard locks, 3 inches long..... 8 dozen brass drawer locks, 2 by 2½ inches..... 12 dozen large size brass padlocks with brass keys..... 20 dozen iron chest locks, 4 inches, with double hasps..... 6 dozen plain brass buttons, without plates..... 12 dozen brass screw hooks, 1½ to 2 inches..... 8 dozen brass flush rings, 2 inches..... 50 gross 3-inch iron screws, ¾ drawn wire..... 40 gross 2½-inch.....do.....Nos. 18, 19..... 40 gross 2-inch.....do.....Nos. 16, 18..... 35 gross 1½-inch.....do.....Nos. 11, 16..... 40 gross 1½-inch.....do.....Nos. 11, 12, 16..... 40 gross 1¼-inch.....do.....Nos. 10, 11..... 70 gross 1-inch.....do.....Nos. 8, 9, 11, 12..... 40 gross ¾-inch.....do.....Nos. 6, 8, 10..... 40 gross ½-inch.....do.....Nos. 3, 4..... 60 gross 3-inch brass screws, ¾ drawn wire..... 20 gross 2½-inch.....do.....Nos. 16, 17, 18..... 10 gross 2-inch.....do.....No. 18..... 40 gross 1½-inch.....do.....Nos. 12, 13, 14..... 50 gross 1-inch.....do.....Nos. 11, 12, 13, 14..... 80,000 16-ounce iron cut tacks..... 200,000 1-inch copper cut tacks..... 8 dozen 2-inch brass butt hinges, with brass pins, not to slip. 2 dozen hatchets..... 1 dozen tape lines, 100 feet each..... 4 pair tinner's shears..... 2 dozen assorted rasps..... 4 dozen pineers.....	\$4 00 per dozen.. 6 00 do 4 00 do 15 00 do 6 00 do 1 00 do 1 25 do 2 00 do 3 50 per gross. 2 00 do 1 50 do 1 00 do 1 00 do 1 00 do 1 00 do 75 do 50 do 6 00 do 6 00 do 6 00 do 2 50 do 1 50 do 25 per 1,000. 60 do 4 00 per dozen. 10 00 do 20 00 do 8 50 per pair. 12 00 per dozen. 5 00 do	Gosport.

3 dozen pliers	4 00	do
5 dozen two-foot rules (single and double).....	7 00	do
2 dozen carpenters' compasses.....	6 00	do
1 dozen carpenters' gauges.....	6 00	do
1 dozen coopers' axes	20 00	do
$\frac{1}{2}$ dozen coopers' adzes	30 00	do
$\frac{1}{2}$ dozen coopers' compasses.....	20 00	do
2 dozen firmer chisels, handled	12 00	do
2 dozen socket chisels, handled and assorted.....	12 00	do
$\frac{1}{2}$ dozen coopers' drawing-knives.....	18 00	do
$\frac{1}{2}$ dozen block planes, coopers	24 00	do
$\frac{1}{2}$ dozen coopers' bucket shaves.....	12 00	do
$\frac{1}{2}$ dozen coopers' in-shaves.....	12 00	do
$\frac{1}{2}$ dozen braces and bitts (48 bitts each)	8 00	per set.
$\frac{1}{2}$ dozen braces and bitts (20 bitts each)	4 00	do
4 small turning lathes	25 00	each.
3 dozen claw hammers.....	6 00	per dozen.
2 dozen wrench hammers, handled and assorted.....	24 00	do
2 dozen wood clamp-screws.....	10 00	do
$\frac{1}{2}$ dozen wood bench-screws	15 00	do
4 pair Dearborn's patent scales, to weigh 500 pounds.....	5 00	each.
8 pair steelyards, assorted, to weigh from 150 to 200 pounds.	3 00	do
4 sets small bread scales, and weights for each set	5 00	do
6 sets flat scales.	7 00	do
1 dozen butchers' steels	7 00	per dozen.
1 dozen bung borers.....	9 00	do
1 dozen tap borers.....	3 00	do
1 dozen pallet knives.....	4 00	do
2 dozen butcher knives.....	6 50	do
1 dozen putty knives	3 00	do
10 dozen brad awls, handled.....	1 00	do
2 dozen hammers	6 00	do
6 dozen grooving planes.....	15 00	do
4 dozen wood rasps, assorted.....	12 00	do
1 dozen trying squares.....	6 00	do
1 dozen saw-sets.....	6 00	do
$\frac{1}{2}$ dozen whip saws, Hoe's make.....	70 00	do
1 dozen cross-cut saws...do.....	36 00	do
1 dozen dove-tail saws...do.....	15 00	do

LIST OF CONTRACTS—Continued.

Date.	Expiration.	Name of contractor.	Articles.	Rate.	Navy yard where deliverable.
1854. July 18	1855. July 30	John A. Higgins.....	1 dozen hack-saws, complete..... 2 dozen hack-saw blades..... 1 dozen grindstones..... 1 dozen gridirons..... 1 dozen copper tea-kettles..... 1 dozen iron tea-kettles..... 1 dozen fish kettles..... 1 dozen frying pans..... 1 dozen bake pans..... 1 dozen stew pans..... 2 dozen globe lanterns..... 16,000 scupper nails..... 6 sets zinc weights, from $\frac{1}{2}$ oz. to 1 lb..... 6 sets iron weights, from 1 lb. to 4 lbs..... 6.....do.....4.....do.....28 do..... 2 reams sand paper, Nos. 1 and 2..... 1 dozen china bowls for water-closets..... 1 dozen carpenters' bevels, steel tongues..... 2 dozen 1 $\frac{3}{4}$ -inch flush bolts..... 6 sets table castors, 4 in a set..... 25 Argand lamps..... 3 dozen lamp chimneys..... 1 dozen lamp scissors..... 1 dozen bread sieves..... 1 dozen cheese knives..... 100 pounds curled hair..... 2 dozen sail prickers..... 2.....do.....rubbers..... 2.....do.....knives..... 1 dozen large screw plates and taps (8 taps).....	\$25 00 per dozen. 12 00 do 25 00 do 15 00 do 36 00 do 24 00 do 36 00 do 10 00 do 6 00 do 20 00 do 36 00 do 1 25 per M 1 25 per set. 50 do 3 00 do 5 00 per ream. 40 00 per dozen. 10 00 do 3 00 do 1 50 per set. 2 00 each. 1 25 per dozen. 6 00 do 9 00 do 7 75 do 45 per pound. 6 00 per dozen. 6 00 do 4 00 do 100 00 do	Gosport.

July 18	June 30	Philip Otterback.....	1 dozen small.....do.....(6 taps).....	70 00	do	
			2 reams emery paper.....	12 00	per ream.	
			10 pounds sal ammoniac.....	20	per pound.	
			50 Bath bricks.....	12	each.	
			150 cords best seasoned pine wood.....	4 48	per cord.	Washington.
			5.....do.....oak wood.....	5 87½	do	
			32,600 pounds sheathing copper, different sizes.....	31	per pound	Charlestown.
			4,000 pounds braziers' copper, (assorted thickness).....	30	do	
			28,000 pounds bolt copper, different sizes.....	31	do	
			2 tape lines (oiled) marked in feet and inches.....	5 00	each.	
			50 papers sewing needles, assorted.....	10	per paper.	
			1,000 sail needles.....	3	each.	
			250 hickory brooms.....	12	do	
			450 corn brooms.....	20	do	
			400 pounds yellow beeswax.....	30	per pound.	
			40 pounds mop yarn.....	50	do	
			300 sheets mica.....	2	per sheet.	
			200 Bath bricks.....	5	each.	
			20 pounds red chalk.....	5	per pound.	
			12 hand pumps, (copper).....	10 00	each.	
			1,500 pounds pure tallow.....	15	per pound.	
			450 pounds packing yarn.....	20	do	
			200 dozen Russia mats.....	2 50	per dozen.	
			2 sets truss hoops.....	5 00	per set.	
			100 gross metallic grummetts.....	4 50	per gross.	
			20 tons Manilla hemp.....	360 00	per ton.	
			15,000 pounds pure dry white lead.....	10	per pound....	Brooklyn.
			4,000 pounds lampblack.....	4	do	
			2,000 pounds French ochre.....	2	do	
			20 pounds Chinese vermillion.....	1 00	do	
			5 pounds Chinese blue.....	40	do	
			10 pounds raw sienna.....	10	do	
			1,200 pounds litharge.....	7	do	
			800 pounds Venetian red.....	2	do	
			200 pounds brown manganese.....	8	do	
			1,000 pounds white zinc, ground in oil.....	10	do	
			50 pounds shellac.....	20	do	
			10 pounds sugar of lead.....	10	do	
			20 pounds gum daller.....	25	do	

LIST OF CONTRACTS—Continued.

Date.	Expiration.	Name of contractor.	Articles.	Rate.	Navy yard where deliverable.
1854. July 18	1855. June 30	Storer & Stephenson	5 pounds white vitriol 30 pounds asphaltum 5,000 gallons linseed oil 710 gallons spirits turpentine 42 gallons copal varnish 3 paint stones and muller 700 pounds flax twine, 3 thread 600 pounds cotton twine, 5 and 6 thread 300 pounds flax whipping twine 300 pounds seine twine 100 feet, 180 lights, 8 by 10-inch Redford crown glass, double thickness 150 feet, 154 lights, 10 by 14-inch Redford crown glass, double thickness 100 feet, 85 lights, 12 by 14-inch Redford crown glass, double thickness 50 feet, 38 lights, 12 by 16-inch Redford crown glass, double thickness 50 feet, 21 lights, 16 by 22-inch Redford crown glass, double thickness 4 10-inch magazine lens 20 10-inch by 3-inch deck lights 2 dozen 5½ by 4-inch plate glass, "champered" edge 12 port bulls' eyes 130 pounds carboy muriatic acid 130 .....do sulphuric acid 50 pieces red bunting, 18 inches wide 50 .....do 12 .....do 50 pieces white bunting, 18 .....do 100 .....do 12 .....do	\$0 20 per pound... 20 do 75 gallons. 60 do 2 00 do 2 00 each. 50 per pound. 25 do 27 do 3 do 20 per light. 20 do 20 do 30 do 50 do 15 00 each. 2 00 do 2 50 do 5 00 do 10 per pound. 10 do 5 00 per piece. 5 00 do 5 00 do 4 00 do	Brooklyn.

30.....do.....	9..do.....	3 00	do
10.....do.....	4½..do.....	2 50	do
10 yards broad-cloth.....		1 00	per yard.
500 yards white muslin.....		8	do
100 yards carpet binding.....		2	do
200 yards broad gimp.....		25	do
10 pieces blue worsted binding.....		30	per piece.
5 pounds black thread.....		1 00	per pound.
30 pounds white thread.....		1 00	do
20 gross black tufts.....		10	per gross.
100 pounds first quality shoe thread.....		5	per pound.
6 table covers.....		10 00	each.
200 yards Brussels carpet.....		1 25	per yard.
980 gallons sperm oil.....		1 15	per gallon.
4, 600 pounds sperm candles, best quality.....		37	per pound.
50 gallons neatsfoot oil.....		90	per gallon.
1, 000 pounds houseline.....		30	per pound.
30 sets signal halliards.....		50	per set.
2 deep-sea lines, size 1½-inch, 300 fathoms long.....		5 00	each.
2.....do.....size 1½-inch, 200.....do.....		3 00	do
4.....do.....size ¾-inch, 120.....do.....		2 00	do
10 hand lead-lines, size ¾-inch, 50.....do.....		5 00	do
2 patent logs, complete.....		25 00	do
100 pounds spun cotton.....		15	per pound.
760 pounds beeswax.....		30	do
6 seines, from 45 to 80 fathoms, to be flax-tanned, with bag and fixtures.....		50 00	each.
600 cylinder bricks, different sizes.....		5	do
200 pounds white chalk.....		1	per pound.
5, 000 pounds tallow.....		15	do
200.....do.....bleached.....		15	do
50 life-preservers.....		2 00	each.
1, 000 fish-hooks, assorted.....		10 00	per M.
4 sets best white oak or hickory mast-hoops, 12 in a set.....		5 00	per set.
50 seaming-palms.....		60	each.
6, 000 ¾-inch white-pine deck-plugs.....		2 00	per M.
16, 000 ¾-inch yellow-pine.....do.....		3 00	do
10, 000 1-inch.....do.....do.....		3 00	do
5, 000 1½-inch white-oak.....do.....		2 00	do

[illegible]

1,000 pounds 2-inch by $\frac{3}{8}$ -inch...do.
1,000 pounds 2 $\frac{1}{4}$ -inch by $\frac{3}{8}$ -inch...do.
1,000 pounds 2 $\frac{1}{2}$ -inch by $\frac{3}{8}$ -inch...do.
1,000 pounds 2 $\frac{3}{4}$ -inch by $\frac{3}{8}$ -inch...do.
1,000 pounds 3-inch by $\frac{3}{8}$ -inch...do.
1,000 pounds 3 $\frac{1}{4}$ -inch by $\frac{3}{8}$ -inch...do.
1,000 pounds 3 $\frac{1}{2}$ -inch by $\frac{3}{8}$ -inch...do.
1,000 pounds 3 $\frac{3}{4}$ -inch by $\frac{3}{8}$ -inch...do.
1,000 pounds 4-inch by $\frac{3}{8}$ -inch...do.
1,000 pounds 4 $\frac{1}{2}$ -inch by $\frac{3}{8}$ -inch...do.
1,000 pounds 4 $\frac{3}{4}$ -inch by $\frac{3}{8}$ -inch...do.
1,000 pounds 5-inch by $\frac{3}{8}$ -inch...do.
1,000 pounds 5 $\frac{1}{2}$ -inch by $\frac{3}{8}$ -inch...do.
1,000 pounds 6-inch by $\frac{3}{8}$ -inch...do.
1,000 pounds 6-inch by $\frac{1}{2}$ -inch...do.
1,000 pounds 6-inch by $\frac{3}{4}$ -inch...do.
1,000 pounds 6-inch by $\frac{1}{2}$ -inch...do.
1,000 pounds 1 $\frac{1}{2}$ -inch by $\frac{3}{4}$ -inch...do.
1,000 pounds 1 $\frac{3}{4}$ -inch by $\frac{3}{4}$ -inch...do.
1,000 pounds 2-inch by $\frac{3}{4}$ -inch...do.
1,000 pounds 2 $\frac{1}{4}$ -inch by $\frac{3}{4}$ -inch...do.
1,000 pounds 2 $\frac{1}{2}$ -inch by $\frac{3}{4}$ -inch...do.
1,000 pounds 3-inch by $\frac{3}{4}$ -inch...do.
1,000 pounds 3 $\frac{1}{4}$ -inch by $\frac{3}{4}$ -inch...do.
1,000 pounds 3 $\frac{1}{2}$ -inch by $\frac{3}{4}$ -inch...do.
1,000 pounds 4-inch by $\frac{3}{4}$ -inch...do.
1,000 pounds 4 $\frac{1}{4}$ -inch by $\frac{3}{4}$ -inch...do.
1,000 pounds 4 $\frac{1}{2}$ -inch by $\frac{3}{4}$ -inch...do.
1,000 pounds 4 $\frac{3}{4}$ -inch by $\frac{3}{4}$ -inch...do.
1,000 pounds 5-inch by $\frac{3}{4}$ -inch...do.
1,000 pounds 1 $\frac{1}{2}$ -inch by 1-inch...do.
1,000 pounds 1 $\frac{3}{4}$ -inch by 1-inch...do.
1,000 pounds 2-inch by 1 inch...do.
1,000 pounds 2 $\frac{1}{4}$ -inch by 1-inch...do.
1,000 pounds 2 $\frac{1}{2}$ -inch by 1-inch...do.
1,000 pounds 2 $\frac{3}{4}$ -inch by 1-inch...do.
1,000 pounds 3-inch by 1-inch...do.

[illegible][illegible]

150 pounds 6-penny.....do.....	6	do
150 pounds 4-penny.....do.....	6	do
250 pounds wrought iron nails, (different sizes).....	6	do
6 sheets No. 18 sheet brass, 12 pounds to the sheet, 72 pounds.	40	do
5 sheets No. 16.....do.....	50	do
4 sheets No. 14.....do.....	50	do
4 sheets No. 10.....do.....	50	do
100 pounds 4-inch brass wire.....	50	do
20 pounds No. 4.....do.....	50	do
10 pounds No. 10.....do.....	50	do
10 pounds No. 13.....do.....	50	do
50 pounds brazier's solder.....	50	do
4,000 pounds pig lead.....	7	do
3,000 pounds lead pipe, 4 to 2½ inches.....	8	do
3,000 pounds milled lead, from 4 to 8 inches per foot.....	9	do
500 pounds banca tin.....	30	do
1 box 1 X tin plate.....	15 00	per box.
10 boxes 1 C tin plate.....	15 00	do
10 boxes 1 C, 14 by 20.....	15 00	do
12 sheets 18-pound sheet zinc, 216 pounds.....	5	per pound.
2 dozen 3-inch brass book-case locks.....	5 00	per dozen.
2 dozen 4-inch brass mortise locks.....	5 00	do
2 dozen 3-inch brass pad-locks.....	15 00	do
6 dozen 4-inch iron cupboard locks.....	5 00	do
6 dozen 3-inch iron drawer locks.....	3 00	do
8 dozen 3½ inch.....do.....	5 00	do
1 dozen 6-inch iron rim locks.....	10 00	do
2 dozen 7-inch iron dead locks.....	2 00	do
1 dozen 3½-inch iron chest locks.....	5 00	do
100 pair 2½-inch brass butts.....	20	per pair.
100 pair 3-inch.....do.....	20	do
50 pair 4 by 4.....do.....	20	do
50 pair 2-inch iron butts.....	10	do
100 pair 3½ inch.....do.....	10	do
15 sets brass secretary hinges and fastenings.....	5 00	per set.
42 gross brass screws, assorted.....	3 00	per gross.
93 gross iron screws, assorted.....	1 00	do
6 comp. binnacle braces and hooks.....	5 00	per set.
6 adzes, carpenters', handled.....	3 00	each.

LIST OF CONTRACTS—Continued.

Date.	Expiration.	Name of contractor.	Articles.	Rate.	Navy yard where deliverable.
1854. July 18	1855. June 30	Storer & Stephenson.....	10 axes, broad, handled..... 2 braces and bitts, "48 bitts"..... 100 shoe awls, handled..... 75 brad awls,.....do..... 12 drawing knives..... 20 shoemakers' knives..... 30 butcher knives..... 6 cheese knives..... 6 plyers knives..... 12 clamp screws, wood..... 6 spoke shaves..... 4 trying squares..... 3 grooving planes..... 4 plough planes..... 3 whip saws..... 6 tenon saws..... 2 compass saws..... 4 adzes, coopers'..... 8 compasses, coopers'..... 2 hollow knives, coopers'..... 2 block planes, coopers'..... 2 can shaves, coopers'..... 2 turning lathes and tools..... 6 glue kettles..... 24 ladles..... 50,000 ¾-inch cut copper tacks..... 50,000 1-inch.....do..... 20,000 1-inch.....do..... 50 pounds 1½-inch.....do..... 60 pounds 1½-inch.....do.....	\$5 00 each..... 10 00 do..... 5 do..... 5 do..... 2 00 do..... 25 do..... 25 do..... 50 do..... 50 do..... 1 00 do..... 1 00 do..... 50 do..... 5 00 do..... 10 00 do..... 1 00 do..... 3 00 do..... 1 00 do..... 3 00 do..... 50 do..... 1 00 do..... 3 00 do..... 2 00 do..... 100 00 do..... 5 00 do..... 10 do..... 80 per M. 20 do..... 1 00 do..... 80 per pound. 80 do.....	Brooklyn.

62,000 iron brads, assorted.....	10	per M.
157,000 iron cut tacks, assorted.....	10	do
5,000 gimp tacks.....	10	do
12 dozen black walnut knobs.....	4 00	per dozen.
50 pounds $\frac{1}{4}$ -inch copper wire.....	50	per pound.
25 pounds No. 19.....do.....	60	do
35 pounds No. 10 iron wire.....	20	do
45 pounds Nos. 12, 14, 16, iron wire.....	20	do
30 pounds No. 1 copper rivets.....	1 00	do
30 pounds No. 2.....do.....	1 00	do
12,000 sheave rivets, iron.....	2 00	per M.
12,000 cooper's rivets, American iron.....	1 00	do
1 ream sand paper.....	5 00	per ream.
4 sets dish covers, 12 to a set.....	20 00	per set.
6.....do..... 8.....do.....	15 00	do
6.....do..... 7.....do.....	1 00	do
4 oilstones.....	1 00	each.
6 grindstones, 120 pounds each.....	5 00	do
6 dozen blank keys for drawer locks, iron.....	3 00	per dozen.
80 dozen $\frac{3}{4}$ -inch brass curtain rings.....	4	do
2 dozen iron blank keys for door locks.....	5 00	do
12 dozen $\frac{3}{4}$ -inch brass escutcheons, flat.....	25	do
12.....do.....do.....do.....thread.....	25	do
1 pound.....do.....do.....escutcheon pins.....	1 00	per pound.
10 dozen $2\frac{1}{2}$ -inch brass flat buttons.....	1 00	per dozen.
10 dozen $1\frac{1}{2}$ -inch brass plate buttons.....	1 00	do
12 sets $1\frac{1}{2}$ -inch brass table castors.....	1 00	per set.
5 Dearborn's patent balances.....	6 00	each.
12 sets lead weights, 1 oz. to 1 pound.....	1 00	per set.
12 sets iron weights, 1 pound to 4 pounds.....	3 00	do
12 sets iron weights, 4 pounds to 28 pounds.....	4 00	do
50 stew-pans, from 2 to 12 quarts.....	1 00	each.
6 iron pots, large size.....	2 00	do
7 sets poker, shovel, and tongs.....	20	per set.
6 butcher steels.....	50	each.
12 bread sieves.....	50	do
12 bread shovels.....	50	do
5,000 pounds pure dry white lead.....	10	per pound..
500 pounds white zinc, ground in oil.....	12	do

Philadelphia.

LIST OF CONTRACTS—Continued.

Date.	Expiration.	Name of contractor.	Articles.	Rate.	Navy yard where deliverable.
1854. July 18	1855. June 30	Storer & Stephenson.....	35 pounds dry Cumberland black lead..... 2 pounds dry Prussian blue..... 5 pounds gum shellac..... 6 pounds pumice stone..... 50 pounds dry venetian red..... 32 gallons raw linseed oil..... 15 gallons copal varnish..... 4 gallons Japan varnish..... 5 gallons spirits of wine..... 431 pounds cotton twine..... 20,000 pounds oakum..... 20 yards fearnought..... 50 barrels pitch..... 30 barrels turpentine..... 10 barrels tar..... 10 barrels rosin..... 2,070 pounds tallow..... 39 pounds beeswax..... 78,850 pounds copper, different sizes..... 6 gross 4-inch iron screws, No. 24..... 6 gross 3-inch.....do.....No. 20..... 6 gross 2½-inch.....do.....No. 16..... 10 gross 2-inch.....do.....Nos. 12 to 16..... 10 gross 1½-inch.....do.....Nos. 12 to 14..... 15 gross 1¼-inch.....do.....Nos. 11 to 13..... 20 gross 1½-inch.....do.....Nos. 10 to 13..... 20 gross 1-inch.....do.....Nos. 9 to 12..... 10 gross ¾-inch.....do.....Nos. 6 to 9..... 10 gross ⅝-inch.....do.....Nos. 5 to 7..... 6 gross ¼-inch.....do.....Nos. 4 to 6.....	\$0 10 per pound... 1 00 do 60 do 10 do 10 do 1 00 per gallon. 3 00 do 3 00 do 2 00 do 24½ per pound. 6½ do 1 00 per yard. 2 50 per barrel. 4 00 do 5 00 do 2 00 do 11½ per pound. 40 do 31½ do 4 00 per gross. 2 00 do 2 00 do 1 00 do 1 00 do 50 do 50 do 40 do 30 do 20 do 20 do	Philadelphia.

6 gross $\frac{3}{4}$ -inch.....do.....Nos. 3 to 5	20	do
6 gross $\frac{3}{4}$ -inch brass screws No. 22.....	10 00	do
6 gross 3-inch.....do.....No. 20.....	8 00	do
6 gross 2 $\frac{1}{4}$ -inch.....do.....No. 16.....	5 00	do
10 gross 2-inch.....do.....Nos. 12 to 16	2 00	do
10 gross 1 $\frac{3}{4}$ -inch.....do.....Nos. 12 to 14	2 00	do
15 gross 1 $\frac{1}{4}$ -inch.....do.....Nos. 11 to 13	2 00	do
20 gross 1 $\frac{1}{4}$ -inch.....do.....Nos. 10 to 13	1 00	do
20 gross 1-inch.....do.....Nos. 9 to 12	1 00	do
10 gross $\frac{3}{4}$ -inch.....do.....Nos. 6 to 9	60	do
10 gross $\frac{3}{4}$ -inch.....do.....Nos. 5 to 7	60	do
6 gross $\frac{1}{2}$ -inch.....do.....Nos. 4 to 6	50	do
6 gross $\frac{3}{8}$ -inch.....do.....Nos. 2 to 5	50	do
50 pair heavy brass ship hinges, 4 by 3 $\frac{1}{4}$ inches, with brass pins, screws, and slip pins.....	1 00	per pair.
50 pair heavy brass ship hinges, 3 by 3 $\frac{1}{4}$ inches, with brass pins, screws, and slip pins.....	1 00	do
50 pair heavy brass ship hinges, 3-inch, with brass pins, screws and slip pins.....	50	do
50 pair heavy brass ship hinges, 2 $\frac{1}{4}$ -inch, with brass pins, screws, and slip pins.....	30	do
50 pair heavy brass ship hinges, 2-inch, with brass pins, screws, and slip pins.....	20	do
4 dozen brass table fastenings.....	1 00	per dozen.
36 pair heavy brass hinges for secretaries, &c.....	50	per pair.
60 pair brass springs.....	10	do
2 gross 2-inch mahogany knobs.....	2 00	per gross.
10 dozen $\frac{3}{4}$ -inch brass round-headed knobs.....	50	per dozen.
10 dozen 1-inch brass round-headed knobs.....	50	do
2 dozen brass flush hooks and eyes, assorted.....	3 00	do
2 gross brass pantry hooks.....	1 00	per gross.
50 heavy brass bulk-head bolts.....	1 00	each.
6 reams best sand paper.....	2 50	per ream.
50 pounds best glue.....	25	per pound.
24 dozen brass plate escutcheons, assorted.....	25	per dozen.
10 dozen brass thread escutcheons, assorted.....	10	do
15 water closets, with pipes and cocks complete, to order....	15 00	per piece.
6 dozen brass mortise-locks, wrought, brass case, 4 by 3 $\frac{1}{4}$, keys and mineral knobs, complete.....	12 00	per dozen.

2,000 pounds 12-penny	do	4 $\frac{3}{4}$	
800 pounds 20-penny	do	5	
500 pounds 30-penny	do	5	
500 pounds milled lead, 5 pounds to the foot.....	do	8	
20,000 pounds best quality English or East India block tin...	do	31 $\frac{1}{2}$	
2 boxes XX tin, 14 by 20 inches.....	per box.	20 00	
2 boxes X tin, 14 by 20 inches.....	do	20 00	
15,000 pounds zinc, in slabs, best quality.....	per pound.	7 $\frac{1}{2}$	
200 pounds best quality sheet brass, assorted.....	do	49	
500 pounds best quality brass wire, assorted.....	do	40	
1,000 pounds pure white lead, dry.....	do	8	
1,500 pounds pure red lead, dry.....	do	8	
120 gallons pure linseed oil, raw.....	per gallon.	80	
60 gallons pure spirits turpentine.....	do	60	
5 gallons best copal varnish.....	do	2 00	
2,500 pounds best quality oakum.....	per pound.	6 $\frac{3}{4}$	
150 gallons best quality winter-strained sperm oil	per gallon.	1 50	
200 pounds best quality sperm candles.....	per pound.	35	
3,500 gallons raw linseed oil.....	per gallon..	95	
600 gallons spirits turpentine.....	do	1 00	
5 gallons spirits wine.....	do	2 00	
8,000 pounds dry white lead.....	per pound.	10	
2,000 pounds dry red lead.....	do	11	
1,200 pounds yellow ochre, dry.....	do	5	
1,000 pounds dry red ochre.....	do	5	
8,000 pounds Spanish whiting.....	do	4	
300 pounds chrome green.....	do	50	
150 pounds Turkey umber.....	do	20	
1,000 pounds litharge.....	do	11	
2,200 pounds lampblack	do	10	
10 pounds Chinese vermilion.....	do	2 00	
150 pounds East India gum copal.....	do	1 00	
150 pounds South American copal.....	do	80	
200 pounds gum shellac.....	do	25	
150 pounds gum demarra	do	40	
500 pounds white zinc paint, ground in oil.....	do	14	
500 pounds white zinc paint, ground in spirits.....	do	15	
5 gallons zinc drier.....	per gallon.	3 00	
50 gallons Japan drier	do	2 00	

Gosport.

LIST OF CONTRACTS—Continued.

Date.	Expiration.	Name of contractor.	Articles.	Rate.	Navy yard where deliverable.
1854. July 18	1855. June 30	Storer & Stephenson.....	1,200 pounds rigging leather..... 1,200 pounds bellows leather..... 1,300 pounds pump leather, oak-tanned..... 40 pounds lacing leather..... 500 pounds hide leather..... 6 skins buff leather..... 2,600 gallons sperm oil..... 120 gallons fish oil..... 5,000 pounds sperm candles..... 25 gallons train oil..... 25 gallons sweet oil..... 600 pounds soap, extra brown..... 100 pounds castile soap..... 100 barrels pitch..... 200 barrels tar..... 24 barrels rosin..... 10 barrels oil of tar (300 gallons)..... 33 barrels turpentine..... 12 barrels coal tar..... 28,000 pounds sheet copper, 32-ounce..... 9,400 pounds brazier's copper, different sizes..... 29,000 pounds bolt copper, different sizes..... 5,000 pounds composition sheathing nails, 1½..... 5,600 pounds copper cut nails, different sizes..... 825 pounds copper boat nails, different sizes..... 48,500 pounds square iron, assorted..... 199,000 pounds round iron, assorted..... 73,500 pounds flat iron, assorted..... 6,500 pounds plate and boiler iron, assorted..... 2,000 pounds American sheet iron, assorted.....	\$0 35 per pound. 50 do 30 do 50 do 30 do 5 00 per skin. 1 50 per gallon. 60 do 37 per pound. 50 per gallon. 1 50 do 12 per pound. 20 do 3 00 per barrel. 4 00 do 2 00 do 50 per gallon. 5 00 per barrel. 5 00 do 31 per pound. 32 do 33 do 30 do 43 do 40 do 3½ do 3¾ do 3¾ do 6 do 5 do	Gosport.

250 pounds Russia iron, No. 18.....	20	do
250 pounds.....do.....No. 22.....	20	do
200 pounds.....do.....No. 24.....	25	do
10,000 pounds hoop iron, assorted.....	5	do
1,850 pounds cast steel, assorted.....	15	do
1,000 pounds German or blister steel, assorted.....	15	do
2 sheets of brass, No. 24, weighing 20 pounds.....	40	do
4.....do.....No. 22, weighing 48 pounds.....	40	do
4.....do.....No. 18, weighing 72 pounds.....	40	do
4.....do.....No. 16, weighing 96 pounds.....	40	do
2.....do.....No. 14, weighing 60 pounds.....	40	do
2.....do.....No. 12, weighing 100 pounds.....	40	do
2.....do.....No. 10, weighing 120 pounds.....	40	do
30 pounds brass wire, No. 1.....	40	do
30.....do.....No. 2.....	40	do
30.....do.....No. 4.....	40	do
30.....do.....No. 6.....	40	do
30.....do.....No. 8.....	40	do
20.....do.....No. 10.....	40	do
20.....do.....No. 12.....	40	do
30.....do.....No. 14.....	40	do
10.....do.....No. 16.....	40	do
10.....do.....No. 18.....	40	do
10.....do.....No. 20.....	40	do
10.....do.....No. 22.....	40	do
20 pounds copper wire, No. 15.....	40	do
20.....do.....No. 16.....	40	do
20.....do.....No. 17.....	40	do
20.....do.....No. 18.....	40	do
5 tons pig iron, Scotch gray.....	40 00	per ton.
2,500 pounds white lead in oil, 25 and 50 pound kegs.....	10	per pound ..
1,000 pounds red lead, dry.....	10	do
500 pounds chrome green, in oil.....	30	do
500 pounds zinc paint, dry.....	10	do
200 pounds lampblack.....	10	do
200 gallons spirits turpentine, in tin cans.....	80	per gallon.
500 gallons linseed oil, raw.....	90	do
15 gallons copal varnish.....	3 00	do
10 gallons Japan driers.....	2 00	do

Pensacola.

LIST OF CONTRACTS—Continued.

Date.	Expiration.	Name of contractor.	Articles.	Rate.	Navy yard where deliverable.
1854. July 18	1855. June 30	Storer & Stephenson	1 gallon demar varnish	\$4 00 per gallon.	Pensacola.
			2,000 pounds sperm candles	40 per pound.	
			1,000 gallons sperm oil	1 25 per gallon.	
			500 sheets 22-ounce sheathing copper, weighing 3,190 lbs.	30 per pound.	
			750 sheets 24-ounce.....do.....	30 do	
			1,000 sheets 26-ounce.....do.....	30 do	
			1,000 sheets 28-ounce.....do.....	30 do	
			5 sheets $\frac{5}{16}$ ounce, 30 by 60, boiler copper, weighing 1,000 pounds	34 do	
			300 pounds $\frac{3}{16}$ round copper	35 do	
			400 pounds 6-inch spikes, composition	30 do	
			600 pounds 7-inch.....do.....	30 do	
			500 pounds 8-inch.....do.....	30 do	
			1,500 pounds 14-inch sheathing nails, composition	30 do	
			25 sheets zinc, 625 pounds	10 do	
			10 glass shades, for running lights for steamers, red	5 00 per piece.	
			10 glass shades, for running lights for steamers, green	5 00 do	
			12 drum-heads, batter	1 00 do	
			12.....do.....snare.....	75 do	
			12 copper hand-pumps, jointed	1 50 do	
			50 pounds potash	15 per pound.	
			300 pounds brown soap.....	7 $\frac{1}{2}$ do	
			50 gallons neatsfoot oil	1 25 per gallon.	
			10 gallons sweet oil	2 25 do	
			100 pounds India rubber packing, $\frac{1}{4}$ -inch thick	45 per pound.	
			25 pounds sheet brass, $\frac{3}{8}$ -inch thick	45 do	
			25 pounds.....do..... $\frac{1}{8}$ -inch thick.....	45 do	
			6 brass bid cocks, $\frac{3}{8}$ -inch thick.....	1 50 each.	
			24 brass socket castors, 1 $\frac{3}{4}$ -inch.....	30 per piece.	
			5 papers 14-inch brads.....	20 per paper.	
July 19	June 30	A. L. Avery			

July 19	June 30	C. P. Knapp.....	10 papers 1.....do.....	15	do	
			10 papers 3.....do.....	15	do	
			5 papers 1.....do.....	10	do	
			24 round bolts, on plates 4 and 8-inch long.....	25	per piece.	
			24 flat.....do.....do.....	30	do	
			12 3/8-inch ship augers, 48 eighths.....	14	per eighth.	
			12 3/8-inch.....do.....108 eighths.....	14	do	
			6 1/8-inch.....do.....66 eighths.....	14	do	
			6 1/8-inch.....do.....84 eighths.....	14	do	
			12 lamp feeders.....	40	per piece.	
			6 large beam-scales, tin, and weights.....	3 00	per set.	
			6 butchers' steels.....	50	per piece.	
			10 pounds copper hose rivets and butts.....	75	per pound.	
			6 hanging lamps.....	6 50	per piece.	
			25 pounds quicksilver.....	1 45	per pound.	
			100 gallons sperm oil.....	1 94	per gallon ..	Memphis.
			500 barrels Wilmington tar.....	5 98	per barrel.	Pensacola.
			5 pounds black thread.....	1 50	per pound ..	
			5 pounds white thread.....	1 50	do	
			5 pounds blue thread.....	1 50	do	
			200 cords oak wood, none to be less than 4 inches in diameter	3 40	per cord.	
			100 bushels charcoal.....	20	per bushel.	
			30 barrels pitch, of the best quality.....	2 75	per barrel..	Washingt n.
			10 barrels tar, of the best quality.....	4 25	do	
			2 dozen best corn brooms.....	2 75	per dozen.	
			2 dozen best hickory brooms.....	2 50	do	
			100 pounds best Irish glue.....	18	per pound.	
			2 reams best assorted sand paper.....	2 25	per ream.	
			50 pounds best refined borax.....	35	per pound.	
			5 No. 45 American crucibles, best.....	2 25	each.	
			50 tons No. 1 American gray pig-iron.....	38 40	per ton.	
			12,500 pounds cut-iron spikes and nails, assorted.....	5	per pound..	Gosport.
			3,000 pounds wrought-iron nails, assorted.....	6	do	
			700 pounds iron finishing nails, assorted.....	25	do	
			455 pounds iron wire, from No. 2 to No. 22, assorted and in			
			equal proportions.....	5	do	
			500 clamp brushes.....	6 00	per dozen.	
			200 long-handled tar brushes.....	6 00	do	
			200 short-handled tar brushes.....	5 00	do	
July 20	June 30	Howell & Morsell.....				
July 20	June 30	Caleb Bonsal.....				

LIST OF CONTRACTS—Continued.

Date.	Expiration.	Name of contractor.	Articles.	Rate.	Navy yard where deliverable.
1854. July 20	1855. June 3	Caleb Bonsal	60 varnish brushes	\$12 00 per dozen..	Gosport.
			700 hand brushes	6 00 do	
			72 whitewash brushes	15 00 do	
			48 dusting brushes	6 00 do	
			400 paint brushes, 0000	9 00 do	
			100 sash tools, assorted	3 00 do	
			75 camel's hair brushes	1 00 do	
			84.....do.....pencils	1 00 do	
			800 feet leather pump hose	65 per foot ...	Brooklyn.
			100 memorandum books, large	15 each	Charlestown.
			100.....do.....do....small	15 do	
			20 blank books, 2 quires	50 do	
			20.....do.....3 quires	75 do	
			10 order books, 4 quires	1 00 do	
			10 letter books, 4 quires	1 25 do	
			10 day books, 6 quires	2 00 do	
			10 requisition books, 4 quires	1 00 do	
			50 pieces India rubber	8 per piece.	
			120 half-pint bottles black ink	10 per bottle.	
			24.....do.....red ink	15 do	
			50 inkstands	15 each.	
			50 inkstandishes	1 25 do	
			24 penknives	75 do	
			10 reams log paper	7 00 per ream.	
			20 reams foolscap paper	4 00 do	
			20 reams letter paper	4 00 do	
			20 reams envelope paper	3 25 do	
			10 reams blotting paper	50 do	
			500 large envelopes	30 per hundred.	
			500 small envelopes	20 do	
July 22	June 30	John H. Bowie			
July 22	June 30	McKim & Cutter			

July 25	June 30	C. S. Storms	60 sheets drawing paper.....	30	per sheet.
			120 cards steel pens.....	20	per card.
			10 parallel rules.....	2 00	each.
			10 round rules.....	37	do
			10 flat rules.....	30	do
			10 rolling rules.....	20	do
			50 dozen slate pencils.....	5	per dozen.
			50 dozen lead pencils.....	40	do
			10 dozen camel's hair pencils.....	6	do
			5,000 quills.....	5 00	per M.
			20 sand boxes.....	15	each.
			50 pounds sand.....	5	per pound.
			20 log slates.....	1 25	each.
			20 single slates.....	25	do
			5 boxes water colors.....	3 00	do
			20 pounds wafers.....	50	per pound.
			100 papers ink powders.....	5	per paper.
			12 boxes and pounce.....	15	each.
			12 Gunter's scales.....	50	do
			12 wafer seals.....	20	do
			10 dozen bolts red tape.....	30	per dozen.
			2 dozen paper folders.....	2 50	do
			5 boxes mathematical instruments.....	6 00	per box.
			20 pounds sealing wax.....	60	per pound.
			5 dozen bolts taste.....	2 00	per dozen.
			20 sides best white-oak tanned leather.....	5 70	per side....
			6 sides oil-tanned leather.....	1 50	do
			160 barrels pitch.....	2 70	per barrel.
			20 barrels tar, superior, thin, in good barrels.....	4 00	do
			6 barrels tar oil, 30 gallons to the barrel.....	9 00	do
			60 barrels white turpentine.....	4 00	do
			10 barrels rosin.....	1 50	do
			12 letter books, cap size, faint-lined, half-bound, 3 quires.....	75	each.....
			48 blank books.....do.....do.....	30	do
			48.....do.....do.....do.....	25	do
			72 memorandum books, with hoops, faint-lined, 1 quire.....	15	do
			72 memorandum books, leather-covered, faint-lined, 1 quire.....	20	do
			24 ivory paper folders.....	30	do
			12 dozen pint bottles black ink, Maynard & Noyes.....	1 50	per dozen.
July 25	June 30	C. S. Storms			Brooklyn.
July 25	June 30	N. Lane & Co.....			Brooklyn.

LIST OF CONTRACTS—Continued.

Date.	Expiration.	Name of contractor.	Articles.	Rate.	Navy yard where deliverable.
1854. July 25	1855. June 30	N. Lane & Co.....	12 dozen half-pint bottles black ink, Maynard & Noyes..... 1 dozen half-pint bottles carmine ink..... 3 dozen 4-blade penknives, best quality..... 1 dozen desk knives, ivory handles..... 1 dozen erasure knives, ivory handles..... 6 cases drawing instruments..... 3 dozen papers ink powders..... 6 dozen metal inkstands..... 6 dozen pieces India rubber..... 25 reams foolscap paper, faint-lined..... 6 reams foolscap paper, faint-lined, regulation ruled..... 25 reams letter, faint-lined, ruled..... 8 reams buff envelope paper..... 3 reams thick blotting paper..... 5 reams log paper..... 24 sheets double elephant drawing paper, hot pressed..... 24 sheets elephant drawing paper, hot pressed..... 24 sheets double elephant best French tracing paper..... 2,000 slate pencils, white Rutland..... 6 gross Faber's best lead pencils, Nos. 2 and 3..... 4 boxes water-colors, complete..... 20 gross Gillott's eagle pens, in boxes of 12, and holders..... 2 gross steel pens, assorted..... 12 dozen pen-holders, assorted to suit pens..... 12 ivory pounce-boxes, with pounce..... 5,000 quills best quality, No. 80..... 24 wafer seals..... 6 dozen half-pint papers black sand..... 2 dozen hard wood sand-boxes..... 3 gross red tape.....	\$1 00 per dozen.. 1 50 do 9 00 do 3 00 do 3 00 do 4 00 per case. 50 per dozen. 5 00 do 12 do 2 00 per ream. 2 50 do 2 00 do 2 50 do 3 00 do 6 00 do 25 per sheet. 10 do 25 do 90 per M. 4 00 per gross. 5 00 per box. 1 50 per gross. 50 do 10 per dozen. 30 each. 3 00 per M. 10 each. 50 per dozen. 1 50 do 2 00 per gross.	Brooklyn.

July 25	June 30	E. Wheeler.....			
			1 dozen rolling rules.....	1 50	per dozen.
			1 dozen ebony parallel rules, 24-inch.....	10 00	do
			1 dozen Gunter's scales, best quality.....	3 50	do
			3 dozen rolls silk taste, assorted colors.....	1 75	do
			10 pounds best American scarlet wafers.....	30	per pound.
			10 pounds best American sealing-wax.....	40	do
			24 log slates, hard wood frames.....	75	each.
			6 school slates and frames.....	10	do
			3 dozen skeleton mortise locks, brass face, key-plates and bolts, with porcelain knobs.....	24 00	per dozen....
			1 dozen 5-inch storeroom locks, brass bolts and keys, keys to differ.....	6 00	do
			2 dozen 3¾ by 2¼-inch brass cupboard locks, right and left, keys to differ.....	6 00	do
			1 dozen 2 by 2¼-inch brass cupboard locks, right and left, keys to differ.....	4 50	do
			1 dozen 2¾ by 4-inch iron tumbler chest locks, keys to differ.....	4 00	do
			2 dozen 2¼ by 3-inch iron tumbler drawer locks, keys to differ.....	3 00	do
			2 dozen pair 2 by 2-inch cast brass hinges.....	1 50	do
			1 dozen pair 2¼ by 2-inch cast brass hinges, all of the best quality.....	2 00	do
			5 gross 3-inch No. 18 iron screws.....	1 92	per gross.
			5 gross 2½-inch No. 17.....do.....	1 37	do
			5 gross 2-inch No. 15.....do.....	97	do
			5 gross 1½-inch No. 13.....do.....	61	do
			5 gross 1¼-inch No. 12.....do.....	50	do
			5 gross 1-inch No. 11.....do.....	40	do
			3 gross ¾-inch iron screws, No. 7.....	28	do
			3 gross ¾-inch iron screws, No. 6.....	21	do
			5 gross 2¼-inch No. 17 brass screws.....	5 20	do
			5 gross 2-inch No. 15.....do.....	3 55	do
			5 gross 1½-inch No. 13.....do.....	2 15	do
			5 gross 1-inch No. 12.....do.....	1 45	do
			3 gross ¾-inch No. 6.....do.....	68	do
			1 dozen ¾ inch wide by 4 inches long brass flush bolts, best.....	1 25	per dozen.
			1 dozen ¾ inch wide by 5 inches long brass flush bolts, best.....	1 50	do
			2 dozen 1½-inch brass flush rings with plates.....	1 50	do
			50 pounds each of Nos. 2, 3, 4, 5, iron wire, best quality.....	7	per pound.
					Washington.

	July 26	June 30	J. R. Anderson.....			Gosport.
16 bolts No. 10.....do.....				4 94	do	
20 bolts hammock stuff				19 00	do	
20 bolts No. 1 cotton canvas				8 55	do.....	
30 bolts No. 2.....do.....				7 98	do	
30 bolts No. 3.....do.....				7 60	do	
150 bolts No. 4.....do.....				7 22	do	
100 bolts No. 5.....do.....				6 84	do	
75 bolts No. 6.....do.....				6 46	do	
50 bolts No. 7.....do.....				6 08	do	
40 bolts No. 8.....do.....				5 70	do	
30 bolts No. 9.....do.....				5 32	do	
40 bolts No. 10.....do.....				4 94	do	
150 bolts hammack canvas.....				19 00	do	
75 bolts bag canvas				14 25	do	
60,000 pounds 4½ by ¾ inch flat iron, in lengths from 20 to 28 feet.....	July 26	June 30	J. R. Anderson.....	4 per pound..	Kittery.	
20,000 pounds square, flat, and round iron, different sizes.....				4 do.....	Charlestown.	
1,500 pounds boiler iron, assorted.....				6 do		
19,300 pounds hoop iron, assorted.....				4½ do		
35,000 pounds 4½ by ¾ inch flat iron, in lengths from 20 to 28 feet.....				4 do		
1,000 rivets, assorted sizes.....				5 00 per M.		
5,000 pounds flat iron, 4¾ by ⅞ inch.....				4 per pound..	Philadelphia.	
36,000 pounds flat iron, 4½ by ¾ inch.....				4 do		
58,500 pounds round iron, best quality, assorted sizes.....				4 do.....	Washington.	
30,000 pounds flat iron, 4½ by ¾ inch, in lengths from 20 to 28 feet.....				4 do		
600 pounds best quality blister steel.....				5½ do		
400 pounds best quality square cast steel.....				15 do		
398,700 pounds chain iron, assorted sizes.....				4½ do		
3,000 pounds square and flat iron, assorted sizes.....				5 do.....	Pensacola.	
75 cords oak wood, best quality.....	July 29	June 30	Oakman & Eldridge.....	9 00 per cord...	Charlestown.	
58,000 feet prime white-pine, in 16 foot lengths, different sizes.....	July 18	Dec. 20	J. Bigler.....	44 00 per M feet..	Washington,	
50,000 feet stage plank, 3 inches thick, 14 to 16 inches wide, 30 feet long.....				25 00 do		
1,000 cubic feet white-pine plank stocks, to average 40 feet in length.....				30 per cub. ft..	Gosport.	
4,000 feet white-pine plank, 4-inch.....				40 00 per M.		

July 22	Dec. 20	Johnson & Walton.....	48.....do.....14.....do.....	8 do	Washington.
			60.....do.....13.....do.....	8 do	
			200 white-oak knees, net siding 9 inches	18 00 per knee...	
			120.....do.....do.....10 inches	20 00 do	
			100.....do.....do.....8½ inches	17 00 do	
			80,000 cubic feet white oak plank stocks, to average 43 feet long.....	50 per cub. ft..	Gosport.
			450,000 feet white-oak plank, various sizes	90 00 per M.	
			50 pieces of promiscuous white-oak stocks, measuring 2,250 cubic feet.....	45 per cub. ft.	
			4,500 feet white-oak butt cuts, different dimensions.....	60 00 per M.	
			20 white-oak butts, round, (with bark on,) 10 feet long, 8 inches in diameter at small end.....	2 00 per piece.	
			500 white-oak knees, to side from 8 to 10 inches, not less than 4½ feet long.....	18 00 per knee.	
			100 white-oak boat knees, to side from 3 to 5 inches, arm 5 feet long.....	8 00 do	
			12,550 lineal feet oar rafters, various dimensions.....	12½ per lin. ft.	
			100 hickory capstan bars, 15 feet long.....	2 25 per piece.	
			15,000 cubic feet yellow-pine, to average 45 feet long.....	45 per cub. ft..	Washington.
			9,400 cubic feet of beam pieces, different dimensions.....	55 do	
			70,000 cubic feet white-oak plank stocks.....	60 do.....	Kittery.
			50 pieces (900 cubic feet) best pasture white-oak, from 14 to 18 feet long.....	60 do	
			3,475 cubic feet yellow pine, for masts, various dimensions..	56 do	
			50,000 cubic feet white oak plank stocks, to average 53 feet long.....	56 do.....	Charlestown.
			2,000 cubic feet promiscuous white oak, 25 to 35 feet in length.....	50 do	
			500 boat knees, white oak, to side 3 inches and upwards.....	3 00 per knee.	
			2,000 cubic feet white pine timber, 35 to 45 feet long.....	40 per cub. ft.	
			500 cubic feet white ash butts, from 14 to 25 feet long.....	50 do	
			5,000 superficial feet of white oak boat boards, 10 to 30 feet long.....	50 00 per M.	
			3,000 cubic feet promiscuous white oak timber, 20 to 30 feet long.....	50 per cub. ft..	Brooklyn.
			50,000 cubic feet white oak plank stocks, to average 43 feet.	50 do	
			70,000 feet 5-inch white oak plank.....	80 00 per M.	
			20,000 feet 6-inch.....do.....	80 00 do	
July 24	Dec. 20	J. Temple.....			
July 24	Dec. 20	S. G. Bogert.....			

LIST OF CONTRACTS—Continued.

Date.	Expiration.	Name of contractor.	Articles.	Rate.	Navy yard where deliverable.
1854. July 24	1855. Dec. 20	S. G. Bogert.....	40,000 feet 6½-inch white oak plank 100,000 feet 7-inch.....do..... 160 cubic feet white oak timber, suitable for cat-heads..... 2,000 feet first quality 1½-inch white oak plank, to average 30 feet..... 2,000 feet first quality 1¼-inch white oak plank, to average 30 feet..... 40,000 cubic feet southern yellow pine plank stocks, to average 43 feet long..... 105 beams, 9,400 cubic feet, various dimensions..... 119½ cubic feet mahogany, different dimensions..... 200 feet 2-inch mahogany planks..... 300 feet 1-inch mahogany boards..... 200 feet ¾-inch.....do..... 1,000 feet 1-inch cherry boards..... 1,000 feet 3-inch black walnut planks..... 1,200 feet 1½-inch.....do..... 2,000 feet 1-inch black walnut boards..... 300 cubic feet Long Island locust, from 8 to 12 feet long..... 50 white ash oars, 17 feet long..... 50 white ash oars, 16.....do..... 50 white ash oars, 11.....do..... 50 white heart split hickory bars, 13 feet long..... 20 white heart split hickory bars, 11 feet long..... 3,000 white oak staves, 56 inches long..... 2,000 white oak staves, 44.....do..... 1,000 white oak staves, 34.....do..... 800 white oak headings, 32.....do..... 1,000 prime white ash barrel staves..... 3,650 cubic feet yellow pine spar timber, various dimensions.	\$80 00 per M. 80 00 do 2 00 per cub. ft. 50 00 per M. 50 00 do 41 per cub. ft. 65 do 6 00 do 25 per foot. 25 do 20 do 8 do 8 do 8 do 8 do 1 45 per cub. ft. 6 p. ft. in len'h. 6 do 6 do 2 00 per piece. 2 00 do 100 00 per M. 100 00 do 100 00 do 100 00 do 100 00 do 90 per cub. ft.	Brooklyn.

July 25	Dec. 20	Marsh, Tunis & Co.....	1,918 cubic feet yellow pine mast timber.....do.....	91 do		Philadelphia.
			172 inches white pine spar pieces.....do.....	2 00 per inch.		
			211 cubic feet white pine square spar, 45 feet long, 26 by 26.	52 per cub. ft.		
			20 keel pieces, 48 feet long, 16 by 18 inches.....	100 00 per piece....		
			20,000 cubic feet plank stocks.....	55 per cub. ft.		
			120,000 board feet 7-inch white oak plank.....	100 00 per M feet.		
			60,000 board feet 6½-inch.....do.....	100 00 do		
			35,000 board feet 6-inch.....do.....	100 00 do		
			30,000 board feet 5½-inch.....do.....	100 00 do		
			90,000 board feet 5-inch.....do.....	100 00 do		
			40,000 board feet 4½-inch.....do.....	100 00 do		
			25,000 cubic feet white oak plank stocks.....	40 per cub. ft....	Washington.	
			270,000 feet white oak plank, different dimensions.....	80 00 per M feet.		
			60,000 cubic feet long leaf southern yellow pine plank stocks.	40 per cub. ft....	Gosport.	
			2,000 cubic feet yellow pine beams, various dimensions.....	60 do		
			3,400.....do.....do.....	80 do		
			2,500.....do.....do.....do.....	70 do		
			3,050.....do.....do.....do.....	70 do		
			18,800.....do.....do.....do.....	70 do		
			500 cubic feet locust, not less than 10 feet long.....	2 00 do		
			6,000 feet black walnut, different sizes.....	75 00 per M.		
			3,000 feet 1-inch cherry plank.....	75 00 do		
			8,000 pounds lignum vitæ, assorted.....	3½ per pound.		
			400 cubic feet ash logs, 16 feet long.....	40 per cub. ft.		
			21,000 feet ash plank, various dimensions.....	40 00 per M.		
			25,100 feet cypress plank.....do.....	40 00 do		
			9,500 feet elm plank.....do.....	40 00 do		
			995 inches black spruce spars, different sizes.....	35 per inch.		
			28 spar pieces, different sizes.....	14 00 per piece.		
			150 spruce poles, from 16 to 20 feet long.....	35 per pole.		
			200 spruce poles, for shores, to average 9 inches diameter, 30 to 35 feet long.....	3 50 per piece.		
			20,000 cubic feet plank stocks, to average 45 feet (yellow pine).....	45 per cub. ft....	Philadelphia.	
			9,400 cubic feet yellow pine beams, various dimensions.....	60 do		
			1,255 cubic feet yellow pine mast timber, different dimensions.	1 00 do		
			924 cubic feet yellow pine mast timber, various dimensions..	1 00 do		
			1,215 cubic feet yellow pine timber for yards, &c., different sizes.....	1 00 do		
July 25	Dec. 20	James Westcott.....				
July 26	Dec. 20	E. H. Herbert.....				

Date	Name	Description	Quantity	Unit	Price	Location
July 29	Nathaniel Dunn	200 cubic feet round ash timber, not less than 20 inches diameter	30	per cub. ft.		Charlestown.
		1,000 feet 3 1/4-inch white ash plank	34	00 per M.		
		2,000 feet 2 1/4-inch do	34	00 do		
		6,000 feet 2-inch do	34	00 do		
		4,000 feet 1 1/2-inch do	34	00 do		
		5,000 feet 1 1/4-inch do	34	00 do		
		3,000 feet 1-inch white ash boards	34	00 do		
		3,000 feet 1 1/4 inch cypress plank	33	00 do		
		3,000 feet 1-inch cypress boards	33	00 do		
		3,000 feet 3/8-inch do	33	00 do		
		2,000 feet 3/8-inch do	33	00 do		
		1,000 C staves, length 66 inches, thickness 1 1/2 inch	300	00 do		
		1,000 E staves, length 45 inches, thickness 1 inch	100	00 do		
		4,000 pipe staves, 60 inches long, 1 1/2 inch thick	250	00 do		
		1,000 C headings, 36 inches long, 2 inches thick	250	00 do		
		1,000 E headings, 22 inches long, 1 1/2 inch thick	106	00 do		
		1,000 feet white oak plank, 2 1/4-inch, for boats	60	00 do		Philadelpoia.
		1,000 do 2-inch do	60	00 do		
		1,000 do 1 3/4-inch do	60	00 do		
		1,000 do 1 1/2-inch do	60	00 do		
		1,000 do 1 1/4-inch do	60	00 do		
		1,000 feet white oak boards, 1-inch do	60	00 do		
		1,000 do 3/4-inch do	60	00 do		
		20 pieces red cedar, from 12 to 16 feet long	5	00 per piece.		
		50,000 feet 3-inch white pine stage plank, from 25 to 40 feet long	29	00 per M.		Kittery.
July 29	G. A. Hammond	2,000 feet prime mahogany plank, 12 feet long, various dimensions	220	00 do		Washington.
July 31	S. B. Grice	2,000 feet prime black walnut plank, in 12 feet lengths	90	00 do		
Aug. 3	William Lang	4 tons, of 2,240 pounds, lignumvitæ, 3 to 6 inches in diameter	50	00 per ton		Brooklyn.
		6 tons, of 2,240 pounds, lignumvitæ, 6 to 12 inches in diameter	50	00 do		
		12,350 cubic feet yellow pine beams, various sizes	55	per cub. ft.		Kittery.
		40,000 cubic feet southern yellow pine plank stocks	40	do		
		2,850 cubic feet yellow pine beams, from 30 to 35 feet in length	57	do		Charlestown.
Sept. 6	James A. Bill	9,400 cubic feet yellow pine beams, various sizes	57	do		

LIST OF CONTRACTS—Continued.

Date.	Expiration.	Name of contractor.	Articles.	Rate.	Navy yard where deliverable.
1854, July 24	1855, Dec. 21	Samuel P. Brown.....	1,000 inches black spruce spars..... 40 spars, from 50 to 65 feet in length..... 100 poles..... 30 pieces black spruce, in length from 45 to 50 feet..... 20 pieces black spruce, in length from 50 to 65 feet..... 1,000 inches spruce sticks, to average 7 inches in length..... 200 spruce sticks, from 30 to 40 feet long..... 200 spruce poles, 20 feet long.....	\$0 30 per inch..... 15 00 per piece. 40 do 10 00 do..... 18 00 do 28 per inch. 3 00 per piece. 25 do	Philadelphia. Brooklyn.

No. 5.

NAVY DEPARTMENT,

Bureau of Provisions and Clothing, November 3, 1854.

SIR: I have the honor to submit the enclosed estimates marked A, B, and C, for the objects pertaining to this bureau, for the fiscal year ending 30th June, 1856, together with abstracts and statements marked D to H, and K to O, inclusive, which have been made in accordance with your directions, dated 11th August, 1854.

The expenses of this bureau have not exceeded the estimates made the last year, and sufficient balances remain on hand under all heads of appropriation.

The power given to the department, by the joint resolution of 27th March, 1854, to reject the bids of persons not regular dealers in the articles bid for, and the option to reject, also, the proposals of former contractors who have failed to comply with their contracts, will aid much in preventing the practice, heretofore prevalent, of contracting for the supply of stores at prices for which it is almost impossible to furnish them.

Several contractors have failed to fulfil their contracts for the last year, and the bureau has been compelled to purchase in open market to supply the deficiencies. The necessary measures have been taken to recover the damages incurred.

A new system for the inspection of provisions, clothing, and small-stores was recently adopted by my predecessor, under your sanction, which, by introducing more strictness and uniformity into inspections, must materially aid in guarding the government against loss, and in securing supplies of the best quality for the use of the sailor.

The expenses of inspection and of preparing the coffee, pepper, and mustard, for the navy, have not hitherto been estimated for by this bureau; but now that the labor and expenses of inspection and of preparing the coffee, &c., are disconnected from the other expenditures of navy yards, and come directly under the supervision of the bureau, it is necessary to ask for an increase of \$9,000, under the head of "contingent," to cover these expenses.

The compensation of clerks in the pay department at the various navy yards is much less than that of other clerks at the same yards.

The first clerks of commandants and naval storekeepers, and the "clerks of the yard" at the four first-class yards, receive twelve hundred dollars (\$1,200) each, per annum. The second clerks of commandants at those yards receive \$960, and the second clerks of storekeepers at the same yards receive \$900 each, while the pursers' clerks, whose duties are as arduous and responsible as any of these, are allowed but \$750. From a full knowledge of the duties of, and the business capacity requisite in, the clerks and assistants to pursers at the various stations, I am of opinion that their present pay is disproportioned to the services performed, as well as to the rates of pay allowed to other clerks, and I respectfully urge the propriety of raising the same to one thousand dollars per annum.

The 8th section of the naval appropriation bill approved March 3d,

1845, enacts that "no more than one purser, doing duty at any navy yard, shall, at the same time, be entitled to the pay fixed by law for that service." The effect of this enactment is, to preclude from acting as inspectors of provisions, clothing, and small-stores the only class of officers who, from the nature of their official duties, must be presumed to be peculiarly qualified for this employment. I respectfully submit that, in my opinion, the interests of the government would be promoted by repealing the section above named.

For several successive years my predecessor has recommended the establishment of a bakery for the use of the navy, and I cannot too strongly second his judicious views upon the subject. The health of the crew and the efficiency of the ship depend in a great degree upon the bread put on board. It is the most essential part of the ration; yet, under the present system, it is the least to be relied on. In the event of a maritime war, it would be the policy of this government to keep its ships at sea as long as possible, since we have no colonial ports to resort to for supplies. The ability to prolong a cruise depends more upon the bread than upon any other article of provisions.

In time of peace our ships are not unfrequently delayed in foreign ports, by the necessity of waiting to have bread baked to supply the place of that which has been condemned.

The contracts for bread call for the best flour; yet it is certain that bread which is apparently sweet and of good quality, is often made from old and damaged flour by the aid of well known chemical processes. It is not only deleterious to health, but, in a short time, will become entirely worthless, thus causing great pecuniary loss to the government, and creating dissatisfaction among the crews of our public ships.

There is a striking difference between the bread baked for ships engaged in the whale fishery and that furnished for the navy. The first keeps perfectly well for three or four years, in all climates. It is generally made of flour purchased by the owners and manufactured under their own inspection, and it is thoroughly dried and carefully packed before leaving the bake-house. I have been informed by a gentleman of high respectability, who has been for twenty-five years very largely interested in the whale fishery, that he has known of only one instance in which the bread on board his ships has proved bad, and that was attributed to imperfect drying. Doubtless there is much allowance to be made for the better stowage and greater care in issuing, used on board whale-ships; but the superior quality of material and greater care in baking must account for the largest part of the difference mentioned.

In my opinion, it would greatly conduce to the interests of the government, if a public bakery for the navy were to be established at some suitable place. The estimated cost of a bakery upon the best plan, and adapted to the probable wants of the navy for many years to come, is twenty-five thousand dollars (\$25,000.) The aggregate value of bread condemned by survey within the last four years was fifty-four thousand six hundred and twenty-four dollars and thirty-two cents, (\$54,624 32.)

The value of shipments to foreign stations during the last fiscal year

will appear from the accompanying statement, marked E. Since the 30th June, 1854, there have been shipped to foreign stations provisions of the value of \$61,151 54; clothing, \$13,027 12; and small-stores, \$6,340 02; and the squadrons abroad are well supplied with the stores coming under the supervision of this bureau.

I respectfully submit that the number of pursers in the navy is entirely too small for the proper performance of the duties pertaining to the corps.

By the last Navy Register it appears that, on the 1st of January, 1854, there were thirteen officers of other classes doing the appropriate duty of pursers, viz:

The navy agents of Baltimore and Memphis—the first acting as purser of the receiving-ship and station, the other as purser of the navy yard.....	2
The commanding officers of the "John Hancock," "Vixen," "Water Witch," "Southampton," "Supply," and "Porpoise"....	6
One commander and four lieutenants, acting as inspectors of provisions and clothing.....	5
	13

Had pursers been employed for these vessels and stations, there would have been but three of the whole number left unemployed, including the sick and infirm and those who were enjoying the short respite from active service which is accorded to all officers.

Considering these facts, and also that Congress at its last session authorized the construction of six additional steam-frigates and two sailing frigates, I am of opinion that an increase of the corps of pursers to the number of eighty is necessary to secure efficiency in this department, and at the same time to relieve officers of other classes from the performance of duties not legitimately theirs. With the proposed addition of sixteen to the present list, all the duties of pursers may be done by that corps; and there would then be only one-fourth of the whole number unemployed, even if no greater demand for officers should follow from the increasing number of vessels in the navy.

I am, very respectfully, sir, your obedient servant,

F. BRIDGE.

Hon. J. C. DOBBIN,

Secretary of the Navy.

Schedule of the papers which accompany the report of the chief of the Bureau of Provisions and Clothing to the Secretary of the Navy, dated November 3, 1854.

- A.—Estimate of the expenses of the bureau for the fiscal year.
- B.—Estimate for provisions for the navy for the fiscal year.
- C.—Estimate for contingent for the navy for the fiscal year.
- D.—Statement showing the value of provisions, clothing, and small-stores on hand.
- E.—Statement showing the value of shipments made by the bureau to foreign stations.
- F.—Statement showing the cost of provisions, clothing, and small-stores condemned.
- G.—Abstract of proposals received for navy supplies.
- H.—Abstract of proposals received for clothing and materials.
- K.—Abstract of proposals received for small-stores.
- L.—Abstract of proposals received for fresh beef and vegetables.
- M.—Abstract of proposals received for beef and pork.
- N.—Abstract of proposals received for transportation of stores.
- O.—Statement of contracts made by the bureau during the year 1854.

A.

Estimate of the expenses of the Bureau of Provisions and Clothing for the fiscal year commencing July 1, 1855, and ending June 30, 1856.

For salary of one clerk of the 4th class, per act of Congress of March 3, 1853	\$1,800 00
For salaries of four clerks of the 2d class, per acts of Congress of March 3, 1853, and 22d April, 1854	5,600 00
For salary of one messenger, per acts of Congress of August 31, 1842, and April 22, 1854	840 00
For salary of one laborer, per acts of Congress of April 22 and August 4, 1854	576 00
	8,816 00

CONTINGENT.

For blank books, binding, stationery, and miscellaneous items	\$700 00
Appropriated for the year ending June 30, 1855:	
For salaries of clerks, messenger, and laborer	\$8,816 00
Contingent	770 00
	9,586 00
Asked to be appropriated for the year ending June 30, 1856:	
For salaries of clerks, messenger, and laborer	\$8,816 00
Contingent	700 00
	9,516 00

NAVY DEPARTMENT,

Bureau of Provisions and Clothing.

B.

Estimate from the Bureau of Provisions and Clothing for that portion of the naval service coming under its cognizance, for the fiscal year ending June 30, 1856.

Estimate for provisions for 7,500 men:

One ration per day for 7,500 men, would be for the year	
2,737,500 rations; at 20 cents each, is	\$547,500 00
One ration per day for 750 commission and warrant officers	
"attached to vessels for sea-service," for the year would	
be 273,750 rations; at 20 cents each, is	54,750 00
One ration per day for 750 officers and marines "attached	
to vessels for sea-service," would be 273,750 rations; at	
20 cents each, is	54,750 00
Additional sum required for an estimated number of 4,000	
men who may decline to draw the spirit portion of their	
ration, as provided by the acts of March 3, 1847, and	
August 3, 1848	29,200 00
Aggregate amount required	<u>686,200 00</u>

NAVY DEPARTMENT, *Bureau of Provisions and Clothing.*

C.

Estimate of the sum which will be required by the Bureau of Provisions and Clothing, under the head of contingent, for the fiscal year ending June 30, 1856.

Contingent.—To meet the demands upon the bureau for freight to foreign stations, transportation from station to station within the United States, cooperage, pay of assistants to inspectors, advertising for proposals, printing pursers' blanks, and stationery for cruising vessels.. \$49,000 00

NAVY DEPARTMENT, *Bureau of Provisions and Clothing.*

RECAPITULATION.

Civil.

Salaries	\$8,816 00
Contingent	700 00

Navy.

Provisions	686,200 00
Contingent	49,000 00

D.

Statement showing the value of provisions, clothing, and small-stores on hand at the United States navy yards, and at naval depots on foreign stations, July 1, 1854.

Stations.	Date.	Provisions.	Clothing.	Small-stores.
Portsmouth, N. H.	July 1, 1854			
Boston, Mass.	do.	\$23,568 01	\$23,623 38	\$5,014 93
New York.	do.	41,020 97	31,195 43	7,309 76
Philadelphia.	do.	1,415 47	7,767 69	1,106 59
Washington.	do.	2 87	67 72	
Norfolk.	do.	7,865 14	21,055 62	6,675 29
Pensacola.	do.	12,718 96	31,817 71	4,794 99
Sancelito, Cal.	do.	3,169 73	27,241 33	4,791 95
Valparaiso.	do.	2,866 54	15,266 35	3,201 64
Rio de Janeiro.	do.	21,659 20	16,862 45	4,404 59
Spezzia.	do.	17,654 84	29,843 80	6,589 02
Porto Praya.	do.	15,743 87	10,752 68	2,573 46
Hong Kong.	April 1, 1854	22,665 12	12,194 20	4,584 29
On board "John P. Kennedy".	do.	9,625 98	3,592 82	878 90
Total.		179,976 70	231,281 18	51,925 41

NAVY DEPARTMENT,
Bureau of Provisions and Clothing.

E.

Statement showing the value of shipments made by the bureau of "Provisions and Clothing" to the United States naval squadrons on foreign stations, during the fiscal year ending June 30, 1854.

Stations.	Date.	Provisions.	Clothing.	Small-stores.
China squadron.	Aug. 5, 1853	\$3,255 80		
China squadron.	Jan. 5, 1854	44,713 04	\$25,730 28	\$7,695 41
Mediterranean squadron.	Aug. 23, 1853	11,613 76	4,474 12	1,445 81
Mediterranean squadron.	Mar. 1, 1854	6,288 62	2,922 63	660 61
African squadron.	Oct. 6, 1853	17,547 06	7,212 52	2,686 33
African squadron.	May 1, 1854	21,770 30	1,802 05	1,437 31
Brazil squadron.	July 25, 1853	17,189 97	4,273 49	2,282 78
Brazil squadron.	Mar. 21, 1854	18,310 92	7,888 59	1,110 30
Total.		140,689 47	54,303 68	17,318 55

NAVY DEPARTMENT,
Bureau of Provisions and Clothing.

F.

Statement showing the cost of provisions, clothing, and small-stores condemned on board the national vessels and at the naval stores at home and abroad, or otherwise destroyed; loss by leakage, evaporation, or other casualties of the service. Also, the amount condemned and sold at auction, with the amount of the net proceeds of such sales, from July 1, 1853, to June 30, 1854, inclusive, so far as returns have been received by the bureau.

Stations, &c.	Provisions.		Clothing.		Small-stores.	
	Cost.	Proceeds.	Cost.	Proceeds.	Cost.	Proceeds.
Portsmouth, N. H.	\$89 25	\$28 11				
Boston, Mass.....	1,321 17	654 56	\$929 20	\$257 55	\$123 61	\$109 20
New York.....	5,207 03	1,642 01	3,525 44	876 24	633 59	75 75
Philadelphia, Pa..	1,426 09	435 62	1,587 01	275 24	465 90	59 70
Baltimore, Md.....						
Washington, D. C.	16 56					
Norfolk, Va.....	8,243 10	4,085 67	969 01	271 99	228 77	243 05
Pensacola, Fla....	1,321 71	191 03	314 27	68 67	173 02	14 69
Sancelito, Cal....	5,846 34	1,019 53	1,684 73	131 84	148 15	99 73
Rio de Janeiro...	236 16	128 83		22 25		
Macao.....	3,602 63	518 61	3 92	91		
Porto Praya.....	1,884 95		1,626 38	359 16	204 14	35 43
Spezzia.....	1,314 53	104 25				
Valparaiso.....	17 97		409 54		59 50	33 88
The several national vessels...	8,275 36	241 63	4,170 43	117 56	263 56	15 95
Total.....	38,802 85	9,049 85	15,219 93	2,381 41	2,300 24	687 38

NAVY DEPARTMENT,
Bureau of Provisions and Clothing.

G.

Abstract of proposals received for "navy supplies" for the fiscal year ending June 30, 1855, under the advertisement of the Bureau of Provisions and Clothing, dated April 13, 1854.

Names.	Residence.	Flour—per barrel.			Biscuit—per 100 pounds.					
		Boston.	New York.	Norfolk.	Boston.		New York.		Norfolk.	
					Tight casks.	Flour barrels.	Tight casks.	Flour barrels.	Tight casks.	Flour barrels.
Charles T. Goodwin.....	New York.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Lewis Timberlake	New York.....	\$8 30	\$8 00	\$8 10	.....	.....	\$6 50	\$5 75	.....	.....
Mullett & Bradbury.....	Charlestown, Mass ..	8 98	.....	.....	.....	.....	.....	.....	.....	.....
Wells & Provost.....	New York.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Storer & Stephenson.....	New York.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Wm. H. Beatty.....	Baltimore, Md.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
N. Hicks Graham.....	Philadelphia, Pa.....	12 25	12 75	.....	.....	.....	.....	.....	.....	.....
John A. Higgins.....	Norfolk, Va.....	11 23	10 70	10 73	.....	.....	.....	.....	.....	.....
David Barnet & Co	Lambertville, N. J.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Thomas Brown.....	Georgetown, D. C.....	11 00	11 00	11 00	\$6 75	\$5 99	6 47	5 93	6 47	5 97
M. Bartlett	Boston, Mass.....	14 50	14 50	.....	7 49	6 49	7 66	6 66	7 96	6 95

G—Continued.

Names.	Residence.	Whiskey—per gallon.			Coffee—per pound.	Sugar—per 100 pounds.		
		Boston.	New York.	Norfolk.		Boston.	New York.	Norfolk.
Charles T. Goodwin.....	New York.....	.....	.....	.....	.....	.....	.....	.....
Lewis Timberlake.....	New York.....	\$0 31	\$0 30	\$0 31	\$0 11½	\$7 50	\$7 00	\$7 25
G Mullett & Bradbury.....	Charlestown, Mass.....	45	.....	.....	.....	7 10	.....	.....
* Wells & Provost.....	New York.....	.....	.....	.....	.....	.....	.....	.....
Storer & Stephenson.....	New York.....	29.74	37.48	39.74	11.48	6 95	6 48	6 95
Wm. H. Beatty.....	Baltimore, Md.....	.....	.....	.....	.....	.....	.....	.....
N. Hicks Graham.....	Philadelphia, Pa.....	35½	39½	.....	15½	7 75	7 98	.....
John A. Higgins.....	Norfolk, Va.....	42	40	39	12	.....	8 00	8 00
David Barnet & Co.....	Lambertville, N. Y.....	61½	60	61½	.....	.....	.....	.....
Thomas Brown.....	Georgetown, D. C.....	.....	.....	.....	.....	.....	.....	.....
M. Bartlett.....	Boston, Mass.....	.....	.....	.....	.....	.....	.....	.....

Ex. Doc. 1

G—Continued.

G—Continued.

[illegible]

G—Continued.

Names.	Residence.	Raisins—per pound.			Dried apples—per pound.			Soap—per pound.
		Boston.	New York.	Norfolk.	Boston.	New York.	Norfolk.	
Charles T. Goodwin.....	New York.....	.....	.....	.....	.....	.....	.....	.....
Lewis Timberlake.....	New York.....	.....	.....	.....	.....	.....	.....	.....
Mullett & Bradbury.....	Charlestown, Mass.....	\$0 13	.....	.....	\$0 6, 82	.....	.....	\$0 07
Wells & Provost.....	New York.....	.....	.....	.....	.....	.....	.....	.....
Storer & Stephenson.....	New York.....	12, 48	\$0 11, 95	\$0 12, 48	.....	.....	.....	.....
Wm. H. Beatty.....	Baltimore, Md.....	.....	.....	.....	.....	.....	.....	.....
N. Hicks Graham.....	Philadelphia, Pa.....	28	28	.....	.....	.....	.....	.....
John A. Higgins.....	Norfolk, Va.....	18	18	18	10	\$0 09	\$0 08	6. 73
David Barnet & Co.....	Lambertville, N. Y.....	.....	.....	.....	.....	.....	.....	.....
Thomas Brown.....	Georgetown, D. C.....	.....	.....	.....	.....	.....	.....	.....
M. Bartlett.....	Boston, Mass.....	.....	.....	.....	.....	.....	.....	.....

NAVY DEPARTMENT, Bureau of Provisions and Clothing.

H.

Abstract of proposals received for clothing and clothing materials, under the advertisement of the Bureau of Provisions and Clothing dated April 23, 1854.

Names.	Residence.	Pea jackets.	Round jackets.	Trousers.	Overshirts.	Under-shirts.	Drawers.	Jumpers.	Blue flannel.	Barnsley sheeting frocks.	Canvass duck trousers.	Barnsley sheeting.
Henry Newton & Co.....	North Weymouth, Mass	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Swaffield & Grant.....	New York.....	\$10 50	\$6 97	\$3 84	\$1 56	\$1 16	\$1 14	\$1 36	.....	\$1 40	\$1 54	.....
Bernheimer Brothers.....	New York.....	12 28	8 35	5 10	2 05	1 30	1 30	1 30	.....	2 30	1 53	.....
Storer & Stephenson.....	New York.....	12 00	10 00	5 90	2 40	1 49	1 74	2 20	\$0 39	2 00	1 25	\$0 90
W. P. Crook.....	Philadelphia, Pa.....	.....	.....	.....	.....	.....	.....	.....	31	.....	.....	.....
Wm. Mathews.....	New York.....	.....	.....	.....	1 86	1 44	1 33	1 48	32.9	.....	.....	68.9
Martin A. Beals.....	Boston, Mass.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Matthew Grier.....	Philadelphia, Pa.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
James Rockwell, agent.....	Utica, N. Y.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Lewis Timberlake.....	New York.....	11 50	7 00	4 10	1 70	1 15	1 15	1 45	33.3	.....	.....	70
Charles Backster.....	New York.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Drumgold & Prock.....	New York.....	10 80	7 75	5 00	.....	.....	.....	.....	.....	.....	.....	.....
John Daily & Jno. W. Massie	Baltimore, Md.....	10 48	7 24	4 61	.....	.....	.....	.....	.....	.....	.....	.....
Sumner Flagg.....	Boston, Mass.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Oliver H. Perry, agent.....	Lawrence, Mass.....	9 50	7 75	4 03	1 46	97	96	1 24	35	.....	.....	.....

H—Continued.

Names.	Residence.	Canvas duck.	Caps.	Calfskin shoes.	Kipskin shoes.	Woolen stockings.	Woolen socks.	Mattres- ses.	Blankets.	Bl'k silk handker- chiefs.	Cotton and wool trousers.	Cotton and wool cloth.
Henry Newton & Co.,	North Weymouth, Mass.	.....	.....	\$1 50½	\$1 40½	.....	.....	.....	.....	.....	.....	.....
Swaffield & Grant.	New York.	.....	\$0 75	.....	.....	.....	.....	.....	.....	\$1 20	\$2 33	.....
Bernheimer Brothers.	New York.	.....	.....	.....	.....	.....	.....	.....	.....	.....	3 20	.....
Storer & Stephenson.	New York.	\$0 50	3 40	2 00	2 00	\$0 75	\$0 60	\$6 00	\$4 90	1 50	.....	.....
W. P. Crook	Philadelphia, Pa.	.....	.....	.....	.....	.....	.....	.....	1 95	.....	.....	.....
Wm. Mathews	New York.	39	61	.....	.....	.....	.....	.....	1 98	91	.....	.....
Martin A. Beals.	Boston, Mass.	.....	.....	.....	.....	.....	.....	4 72	.....	.....	.....	.....
Matthew Grier.	Philadelphia, Pa.	.....	.....	1 55	1 45	.....	.....	.....	.....	.....	.....	.....
James Rockwell, agent.	Utica, N. Y.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	\$0 72
Lewis Timberlake.	New York.	35	.....	.....	.....	4 75	3 75	.....	1 60	90	2 95	85
Charles Backster.	New York.	.....	62½	.....	.....	.....	.....	.....	.....	.....	.....	.....
Drumgold & Prock.	New York.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
John Daily & Jno. W. Massie	Baltimore, Md.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Sumner Flagg	Boston, Mass.	.....	.....	.....	.....	.....	.....	5 08	.....	.....	.....	.....
Oliver H. Perry, agent.	Lawrence, Mass.	.....	.....	.....	.....	.....	.....	.....	.....	.....	2 48	65

NAVY DEPARTMENT,
Bureau of Provisions and Clothing.

K.

Abstract of proposals received for small-stores, under the advertisement of the Bureau of Provisions and Clothing, dated April 28, 1854.

Articles.	Storer & Stephen- son, New York.	William Mathews, New York.	William Lang, Bos- ton.	John A. Higgins, Norfolk.
Boxes, shaving.....each.....	\$0 10	\$0 05	\$0 10	\$0 06
Brushes, shaving.....do.....	10	5	12	4
Brushes, scrubbing.....do.....	30	20	25	18
Brushes, shoe.....do.....	25	20	25	15
Brushes, clothes.....do.....	20	18	30	5
Buttons, navy, vest.....per gross.....	3 00	1 90	2 25	1 50
Buttons, navy, medium.....do.....	5 00	3 00	4 00	3 00
Buttons, navy, coat.....do.....	6 00	4 00	6 50	3 50
Buttons, dead-eye.....do.....	30	16	20	20
Blacking, boxes of.....per dozen.....	75	50	50	40
Beeswax, in $\frac{1}{4}$ -pound cakes,.....per pound.....	35	30	40	26
Combs, coarse.....per dozen.....	1 50	1 40	1 50	90
Combs, fine.....do.....	1 50	1 10	1 10	90
Cotton, spools of.....do.....	50	50	40	50
Grass, for hats.....per 100 hands.....	2 50	2 25	3 00	2 00
Handkerchiefs, cotton.....each.....	29	8	6	6
Handkerchiefs, fancy silk.....do.....	1 00	54	65	55
Jack-knives.....do.....	50	27	35	19
Looking-glasses.....do.....	25	15	20	16
Needles, sewing.....per 1,000.....	1 00	85	1 10	1 00
Razors, in single cases.....each.....	25	25	30	20
Razor-strops.....do.....	25	20	50	20
Ribbon, hat.....per piece.....	1 00	62	75	75
Soap, shaving, cakes.....per dozen.....	25	15	36	10
Silk, sewing.....per pound.....	5 00	5 50	5 00	6 50
Scissors.....each.....	25	15	25	13
Spoons.....do.....	10	6	5	9
Thread, black and white.....per pound.....	1 00	84	83	65
Tape, white.....per dozen.....	40	30	30	40
Tape, black.....each.....	20	20	35	25
Thimbles.....do.....	10	2	3	1
Mustard-seed.....per pound.....	25	15	14	25
Pepper, black.....do.....	25	15	12 $\frac{1}{2}$	20
Pepper, red.....do.....	15	10	16	15
Bottles.....per gross.....	3 50	2 50	5 00	3 25
Corks.....do.....	1 00	55	1 75	60

NAVY DEPARTMENT, *Bureau of Provisions and Clothing.*

L.

Abstract of proposals received for the supply of fresh beef and vegetables at the several navy yards during the fiscal year ending June 30, 1855, under advertisements of the respective navy agents, by direction of the Bureau of Provisions and Clothing.

Names.	Where to be delivered.	Beef, per pound.	Vegetables, per pound.
Edmund A. Dixon.....	Portsmouth, N. H.....	\$0 14	\$0 02
John H. Clapp.....	Charlestown, Mass.....	9 ⁸⁷ / ₁₀₀	1 ⁷³ / ₁₀₀
Nahum Chapin.....	do.....	8	1 ¹⁷ / ₁₀₀
George Haws.....	Brooklyn, N. Y.....	8 ⁷⁴ / ₁₀₀	2 ⁴⁹ / ₁₀₀
George H. Tilby.....	do.....	9 ⁷⁴ / ₁₀₀	2 ⁷⁴ / ₁₀₀
William F. Conly.....	Philadelphia, Pa.....	16 ¹ / ₂	7 ³ / ₄
David L. Shuster.....	do.....	14 ¹ / ₂	6 ¹ / ₄
Daniel Hamm.....	do.....	14 ¹ / ₂	9 ¹ / ₄
David Woelpper.....	do.....	14 ¹ / ₂	6 ¹ / ₂
George W. Pappler.....	Baltimore, Md.....	10	4
Philip Otterback.....	Washington, D. C.....	14	6
William Ward.....	Gosport, Va.....	9 ³ / ₄	3 ¹ / ₂
Robert Searls.....	do.....	10	4
William T. Bell.....	Warrington, Florida.....	6	3 ³ / ₄
Joseph Sevva.....	do.....	6 ³ / ₄	3 ¹ / ₂
Henry A. Nunez.....	do.....	7	3 ¹ / ₄
Samuel B. Sherwood.....	San Francisco, Cal.....	17 ⁹⁴ / ₁₀₀	3 ¹ / ₂
T. B. Burnham.....	do.....	18 ¹ / ₄	2 ¹ / ₂
S. T. Hildreth.....	do.....	18 ¹ / ₄	8
John Wilson.....	do.....	20	6

NAVY DEPARTMENT, Bureau of Provisions and Clothing.

M.

Abstract of proposals received for the supply of navy beef and navy pork for 1855, under the advertisement of the Bureau of Provisions and Clothing, dated August 24, 1854.

Name.	Residence.	Navy beef.			Navy pork.		
		At Boston.	At New York.	At Norfolk.	At Boston.	At New York.	At Norfolk.
		Per barrel.	Per barrel.	Per barrel.	Per barrel.	Per barrel.	Per barrel.
E. A. & W. Winchester.....	Boston, Mass.....	\$18 97	\$18 97	\$18 97	\$16 97	\$16 97	\$16 97
Chambers McKibbin.....	Philadelphia, Pa.....	19 35	18 95	19 48	16 89	16 79	16 97
Charles H. Cadwell.....	New York.....	.....	.....	.....	16 98	16 95	16 98
St. John O'Doris*.....	Philadelphia, Pa.....	.....	.....	.....	.....	.....	.....
Benj. M. Wilson.....	New York.....	.....	19 98	.....	.....	16 98	.....

* Not considered, he having failed to execute his contract in 1853.

NAVY DEPARTMENT, Bureau of Provisions and Clothing.

N.

Abstract of proposals received for the transportation of stores from the navy yard at Brooklyn, N. Y., to Hong Kong, China, under an advertisement of the navy agent (by direction of the Bureau of Provisions and Clothing) dated November 18, 1853.

Name.	Vessel.	Price per barrel.
James H. Elwell & Co	Brothers	\$2 90
Wm. H. Merrill.....	Warner	3 50

Abstract of proposals received for the transportation of stores from the navy yard at Charlestown, Mass., to Spezzia, in Sardinia, under an advertisement of the navy agent (by direction of the Bureau of Provisions and Clothing) dated February 7, 1854.

Name.	Vessel.	Price per barrel.
Edmund P. Cobb.....		\$1 90
V. Brown & Son.....		1 87½

Abstract of proposals received for the transportation of stores from the navy yard at Brooklyn, N. Y., to Valparaiso, Chili, under an advertisement of the navy agent (by direction of the Bureau of Provisions and Clothing) dated June 9, 1854.

Name.	Vessel.	Price per barrel.
James H. Elwell & Co.....	Terror	\$2 70
Hows & Co,.....	Mary Gover.....	2 30
Wm. T. Schmidt & Co.....	Gem of the Sea.....	4 75
Wm. T. Schmidt & Co.....	Antelope.....	3 50

N—Continued.

Abstract of proposals received for the transportation of stores from the navy yard at Charlestown, Mass., to Spezzia, in Sardinia, under an advertisement of the navy agent (by direction of the Bureau of Provisions and Clothing) dated August 22, 1854.

Name.	Vessel.	Price per barrel.
Jasigi, Goddard & Co. ....	.....	\$1 37½
A. L. Payson .....	.....	2 50
Vernon Brown & Son.	An A No. 1 vessel.	2 45
Silas A. Nash. ....	.....	2 25
Alpheus Hardy & Co.	Brig Ann Elizabeth	1 97

Abstract of proposals received for the transportation of stores from the navy yard at Charlestown, Mass., to Porto Praya, Cape de Verd, under an advertisement of the navy agent (by direction of the Bureau of Provisions and Clothing) dated September 16, 1854.

Name.	Vessel.	Price per barrel.
Vernon Brown & Son .....	.....	\$2 50
C. R. Green.	Barque "Saone"	2 10
G. W. Johnson	A first-class vessel.	2 87½

NAVY DEPARTMENT, Bureau of Provisions and Clothing.

O.

Statement of contracts made by the Bureau of Provisions and Clothing, for and in behalf of the Navy Department, for supplies for the navy, to be delivered during the fiscal year ending June 30, 1855; prepared in obedience to the acts of Congress approved April 21, 1808, and March 3, 1809.

Contractors' names.	Date of contract.	Articles contracted for.	At what price.	Where to be delivered.
Thomas Brown	May 22, 1854	Biscuits, in tight casks.....	\$6 75 per 100 pounds.	Boston.
		Biscuit, in tight casks.....	6 47 do.....	New York.
		Biscuit, in flour barrels.....	5 99 do.....	Boston.
William H. Beatty	May 19, 1854	Biscuit, in tight casks.....	5 84 do.....	Norfolk.
		Biscuit, in flour barrels.....	5 44 do.....	Norfolk.
Charles T. Goodwin	May 22, 1854	Biscuit, in flour barrels.....	5 75 do.....	New York.
Nathan F. Rice	June 5, 1854	Biscuit, in flour barrels.....	5 40 do.....	Warrington, Florida.
Mullett & Bradbury.....	May 24, 1854	Molasses.....	28. 42 per gallon..	Boston.
Mullett & Bradbury.....	May 24, 1854	Dried apples	6. 82 per pound..	Boston.
Wells & Provost.....	May 18, 1854	Pickles	5 3/4 do.....	Norfolk.
N. Hicks Graham.....	May 22, 1854	Pickles	5. 40 do.....	Boston and New York.
N. Hicks Graham.....	May 22, 1854	Beans	1 94 per bushel..	Boston
N. Hicks Graham.....	May 22, 1854	Vinegar.....	10. 98 per gallon..	Boston
			10 4 do.....	New York.
Lewis Timberlake.....	May 20, 1854	Tea	44 per pound..	Boston.
			42 do.....	New York.
			43 do.....	Norfolk.
Lewis Timberlake.....	May 20, 1854	Flour	8 30 per barrel..	Boston.
			8 00 do.....	New York.
			8 10 do.....	Norfolk.
Lewis Timberlake.....	May 20, 1854	Whiskey	31 per gallon..	Boston.
			30 do	New York.
			31 do	Norfolk.
John A. Higgins	May 24, 1854	Rice.....	4 90 per 100 pounds.	Norfolk.
John A. Higgins	May 24, 1854	Vinegar.....	25 per gallon..	Norfolk.
John A. Higgins	May 24, 1854	Salt-water soap.....	6. 73 per pound..	Boston, New York, and Norfolk.

John A. Higgins	May	24, 1854	Beans	2 30	per bushel..	New York.
John A. Higgins	May	24, 1854	Dried apples	1 73	do.....	Norfolk.
Storer & Stephenson.....	May	20, 1854	Raisins	9	per pound..	New York.
				8	do.....	Norfolk.
				12 48	do.....	Boston.
				11 95	do.....	New York.
				12 48	do.....	Norfolk.
Storer & Stephenson.....	May	22, 1854	Coffee	11 48	do.....	New York.
Storer & Stephenson.....	May	21, 1854	Sugar	6 95	per 100 pounds.	Boston.
				6 48	do.....	New York.
				6 95	do.....	Norfolk.
Storer & Stephenson.....			Molasses	29	per gallon..	New York.
				32	do.....	Norfolk.
Storer & Stephenson.....			Rice.....	4 95	per 100 pounds.	Boston.
				4 74	do.....	New York.
Gilbert Davis, (for 3 years).....			Butter.....	28	per pound..	Boston, New York, and Norfolk.
Gilbert Davis, (for 3 years).....	June	2, 1854	Cheese	19	do.....	Boston, New York, and Norfolk.
Edmund A. Dixon.....	June	19, 1854	Fresh beef	14	do.....	Portsmouth, N. H.
			Vegetables.....	2	do	
Nahum Chapin.....	June	14, 1854	Fresh beef	8	do.....	Boston.
			Vegetables	1 17	do	
George Haws.....	June	9, 1854	Fresh beef	8 74	do.....	New York.
			Vegetables	2 49	do	
David Woelpper	June	20, 1854	Fresh beef	14½	do.....	Philadelphia.
			Vegetables	6½	do	
Philip Otterback.....	June	30, 1854	Fresh beef	14	do.....	Washington, D. C.
			Vegetables	6	do	
William Ward.....	June	15, 1854	Fresh beef	9¾	do.....	Norfolk.
			Vegetables	3½	do	
William T. Bell.....	June	—, 1854	Fresh beef	6	do.....	Warrington, Florida.
			Vegetables	3¾	do	
George W. Pappier	June	23, 1854	Fresh beef	10	do.....	Baltimore, Md.
			Vegetables	4	do	
Samuel B. Sherwood.....	June	22, 1854	Fresh beef	1794	do.....	San Francisco, Cal.
			Vegetables	3½	do	
Eli L. Corbin, (for 3 years)	June	10, 1854	Butter.....	26	do.....	Boston, New York, and Norfolk.
Horace Corbin, (for 3 years)	June	10, 1854	Butter.....	26	do.....	Boston, New York, and Norfolk.
Oliver H. Perry, (agent).....	May	29, 1854	Pea-jackets.....	9 50	each.....	Boston, New York, and Norfolk.
			Overshirts	1 46	do	

O—Continued.

Contractors' names.	Date of contract.	Articles contracted for.	At what price.	Where to be delivered.
Oliver H. Perry, (agent)	May 29, 1854	Undershirts.....	\$0 97 each.....	Boston, New York, and Norfolk.
		Drawers.....	96 do	
		Jumpers.....	1 24 do	
		Cotton and wool cloth.....	65 per yard.	
William T. Crook.....	May 31, 1854	Blue flannel.....	31 do.....	Boston, New York, and Norfolk.
Henry Newton & Co.....	May 29, 1854	Calfskin shoes.....	1 50½ per pair....	Boston, New York, and Norfolk.
		Kipskin shoes.....	1 40½ do	
Bernheimer Brothers.....	May 27, 1854	Canvas duck trousers.....	1 53 do.....	Boston, New York, and Norfolk.
Swaffield & Grant.....	May 27, 1854	Round jackets.....	6 97 each.....	Boston, New York, and Norfolk.
		Blue cloth trousers.....	3 84 per pair.	
		Barnsley sheeting frocks.....	1 40 each.	
		Cotton and wool cloth trousers.....	2 33 per pair.	
William Mathews.....	May 26, 1854	Barnsley sheeting.....	68. 9 per yard....	Boston, New York, and Norfolk.
		Canvas duck.....	39 do	
		Blue cloth caps.....	61 each.	
		Blankets.....	1 98 do	
		Black silk handkerchiefs.....	91 do	
		Mattresses and covers.....	5 08 do.....	Boston, New York, and Norfolk.
Sumner Flagg.....	June 15, 1854	Small stores, viz:		
William Mathews.....	June 1, 1854	Boxes, shaving.....	5 do.....	Boston, New York, and Norfolk.
		Brushes, shaving.....	5 do	
		Brushes, scrubbing.....	20 do	
		Brushes, shoe.....	20 do	
		Brushes, clothes.....	18 do	
		Buttons, navy, vest.....	1 90 per gross.	
		Buttons, navy, medium.....	3 00 do	
		Buttons, navy, coat.....	4 00 do	
		Buttons, dead-eye.....	16 do	
		Blacking, boxes of.....	50 per dozen.	
		Beeswax, in ¼ lb. cakes.....	30 per pound.	
		Combs, coarse.....	1 40 per dozen.	
		Combs, fine.....	1 10 do	

Cotton, spools of.....	50	do
Grass, for hats.....	25	per 100 hands.
Handkerchiefs, cotton.....	8	each.
Handkerchiefs, fancy silk.....	54	do
Jack-knives.....	27	do
Looking-glasses.....	15	do
Needles, sewing.....	85	per thousand.
Razors.....	25	each.
Razor-strops.....	20	do
Ribbon, hat.....	62	per piece.
Soap, shaving.....	15	per dozen.
Silk, sewing.....	5 50	per pound.
Scissors.....	15	each.
Spoons.....	6	do
Thread, black and white.....	84	per pound.
Tape, white, linen.....	30	per dozen.
Tape, black, cotton.....	20	each.
Thimbles.....	2	do
Mustard-seed.....	15	per pound.
Pepper, black.....	15	do
Pepper, red.....	10	do
Bottles, for mustard and pepper.....	2 50	per gross.
Corks.....	55	do

UNEXPIRED CONTRACT.

Robert A Mayo, (for 4 years).....	Feb.	26, 1853	Tobacco.....	19. 62	per pound.	Boston, New York, and Norfolk.
C. Berkley Johnson.....	Oct.	9, 1854	1, 400 barrels navy beef.....	18 97	per barrel.	Boston.
Charles H. Cadwell.....	Oct.	7, 1854	2, 600 barrels navy beef.....	18 95	do	New York,
Charles H. Cadwell.....	Oct.	7, 1854	1, 400 barrels navy beef.....	19 48	do	Norfolk.
Chambers McKibbin.....	Oct.	12, 1854	1, 200 barrels navy pork.....	16 89	do	Boston.
Chambers McKibbin.....	Oct.	12, 1854	2, 400 barrels navy pork.....	16 79	do	New York.
Chambers McKibbin.....	Oct.	12, 1854	1, 200 barrels navy pork.....	16 97	do	Norfolk.

O—Continued.

CHARTER PARTIES.

Contractors' names.	Date of contract.	Articles contracted for.	At what price.	Where to be delivered.
Barque "Brothers"	Nov. 29, 1853	Freight of stores.....	\$2 90	To Hong Kong, China.
Barque "Adelia Rogers"	Feb. 22, 1854	do	1 87½	To Spezzia, Sardinia.
Barque "Nevada"	April 28, 1854	do	2 33½	To Porto Praya, Cape de Verd.
Ship "Mary Glover"	June 24, 1854	do	2 30	To Valparaiso, Chili.
Barque "Stamboul"	Aug. 29, 1854	do	1 37½	To Spezzia, Sardinia.
Barque "Bounding Billow"	Sept. 29, 1854	do	1 75	To Porto Praya, Cape de Verd.

NAVY DEPARTMENT, Bureau of Provisions and Clothing.

No. 6.

NAVY DEPARTMENT,

Bureau of Medicine and Surgery, October 28, 1854.

SIR: In compliance with your instructions of August 11, I have the honor to submit herewith estimates of the several sums required for the support of this bureau and the medical department of the naval service (hospitals excepted) for the fiscal year terminating June 30, 1856.

The fiscal condition of this department is stated as follows:

Balance of appropriation for "surgeons' necessities and appliances" in treasury June 30, 1854.....	\$28,987 52
Amount of appropriation for "surgeons' necessities and appliances" by act of Congress of August 5, 1854....	35,575 00
Amount of "surgeons' necessities and appliances" in treasury October 1, 1854.....	63,266 94
Amount of hospital fund in treasury October 1, 1854..	114,123 85
Amount required for support of Bureau of Medicine and Surgery for the fiscal year terminating June 30, 1856..	9,466 00
Amount required for the support of the medical department of the navy, for the year terminating June 30, 1856.....	<u>34,325 00</u>

The estimates for the medical service, hospitals excluded, are smaller than those of the present year. The sums for the support of the bureau exceed those of the present year, in consequence of the acts of Congress of April 22 and August 4, 1854, increasing the compensation of the two clerks of the second class, authorized by act of Congress of the 3d March, 1853, from \$1,200 to \$1,400; and by act of Congress of August 4, 1854, fixing the salary of laborers in the different bureaus at \$480 per annum, with the addition of twenty per cent., per decision of the Treasury Department of August 22, 1854.

Estimates for the year ending June 30, 1856.....	\$9,466 00
Amount appropriated for support of bureau for the year ending June 30, 1855	<u>8,530 00</u>
Excess	<u>936 00</u>

Subjoined are tabular statements deduced from "reports of sick" from medical stations within the United States; and also from the various squadrons in commission—the former for the year ending September 30, 1854; the latter for the year ending March 31, 1854; as recent an exhibit as the remote and widely separated stations of vessels on service will enable me to present.

Ex. Doc. 1—37*

Home stations.	Remaining Sept. 30, 1853.	Admitted.	Died.	Total treated.	Remaining Sept. 30, 1854.	Per-centage.
Navy yards, receiving-ships, &c.....	122	2,797	9	2,919	103	0.30
Hospitals	136	686	30	822	112	3.60
Total	258	3,483	39	3,741	215	1.42

Squadrons.	Remaining March 1, 1853.	Admitted.	Died.	Total treated.	Remaining March 31, 1854.	Per-centage.
East Indies.....	187	3,679	22	3,866	207	0.56
Home	24	1,050	3	1,074	45	0.27
Pacific	34	912	9	946	27	0.95
Mediterranean.....	76	1,103	6	1,179	54	0.50
Brazil.....	23	1,134	3	1,157	42	0.35
African.....	70	1,617	1	1,687	88	0.06
Total	414	9,495	44	9,909	813	0.44

There are five hospitals belonging to the naval service, situated respectively at Chelsea, near Boston, (finished only in part,) Brooklyn, New York, Philadelphia, Portsmouth, Va., and Pensacola. They differ in size and capacity, but will accommodate from fifty to five hundred patients. They are supported exclusively from the "hospital fund;" the ration of each patient from the navy is credited to the "hospital fund" at the "cost only thereof," agreeably to an act of Congress of March 3, 1851.

The "cost" of the daily naval ration during the year has not exceeded sixteen cents, and falls considerably below the actual daily expense of the sick, in consequence of the great increase in price of all the necessaries of life.

The cost of the sick per week in the different naval hospitals has averaged about \$3 16 per man. This covers every item of expense under the heads of provisions, medicines, instruments, hospital stores, fuel, lights, stationery, renovation, and wear and tear of bedding and furniture, and subsistence of attendants; but not their wages, as they are not paid from the fund devoted to the support of hospitals.

The sites of these hospitals were also purchased out of the "hospital fund," though the buildings have been erected by special appropriations by Congress, and are kept in repair by annual appropriations from the same source. In their general order and administration they will bear a favorable comparison with any institutions of a similar

character in our country, though deficient in the modern appliances for warming, cooking, &c., which render them disproportionately expensive in these respects.

In our hospitals are sixteen patients afflicted with various forms of insanity, some of whom have been retained for years subsequent to the expiration of their enlistment, either because there have been none to reclaim them, or because it has been impossible to ascertain the whereabouts of their friends or family.

Unprovided as our hospitals are with the peculiar means adopted with so much success, of late years, for the management of this unfortunate class, and in view of the chronic character of a majority, if not all, of the cases, there is but little prospect of a restoration to usefulness or reason in any instance.

The "Asylum for the insane of the District of Columbia, and of the army and navy of the United States," authorized to be erected by Congress in the vicinity of this city, is so far advanced as to justify the belief that it may be in readiness for occupancy in January next. Embracing, as it does, all the most modern arrangements for the treatment of the unfortunate class to which it is specially devoted, and under the charge of a gentleman (Doctor Nichols) eminently qualified in this particular department of the profession, it will relieve the naval hospitals of those now so inadequately accommodated, and greatly increase whatever chance there may be of ultimate recovery.

NAVAL LABORATORY.

This establishment, connected with the naval hospital at New York, under the extended organization authorized by the department in November last, has verified every reasonable anticipation of its utility, and will, no doubt, with enlarged experience, satisfactorily fulfil all its purposes.

The prominent design of furnishing the navy with medicines of a pure and reliable quality, will certainly be attained; and there cannot be much doubt that the issuing prices will be lower than have been paid heretofore for articles of less certain character. Medical supplies for home stations, and the outfit of vessels, have been almost entirely derived from the laboratory since January last. It is intended to furnish the navy, at home and abroad, altogether from this source.

This plan presents the advantage of uniform quality and uniform prices throughout the service, while it greatly reduces the system of accounts. Settlements are made quarterly, for all issues, by transfers of money from the appropriation for "surgeons' necessities and appliances" to the "hospital fund," from which all materials for the laboratory are purchased under authority of the Navy Department.

The laboratory is also the depot of surgical instruments and returned stores, where those in proper condition are reserved for use, and such as require repairs or remanufacture are prepared to meet new demands. Vaccine matter, obtained from trustworthy sources, is also issued to the service.

The advantage of having the disposable property of the medical department collected at one central and accessible point, instead of being

distributed about the different naval stations, is sufficiently obvious in an economic point of view, for, by knowing exactly what we have in store, all superfluous or unnecessary purchase is prevented.

The laboratory is under the direction of medical officers of the navy, with the aid of such assistance as emergencies may require. The number has not exceeded two men and two boys—a force sufficiently limited, when the extent and variety of occupation are considered. Their wages, regulated according to circumstances, are paid out of the “hospital fund.”

Experiments are now in progress to enable us to determine upon the issuing prices of our products; for to the cost of the crude drug or material is to be added a per-centage to cover all the incidental expense of manufacture. It will require some time to ascertain, with anything like accuracy, what this per-centage shall be. In the meanwhile, our prices are generally lower than we have paid to dealers under the former system.

Amount of purchases for the laboratory during the year ending September 30, 1854.....	\$9,602 41
Amount of issues for same period.....	7,265 36
Amount of stock on hand, including machinery and appliances of all kinds.....	17,589 42

It may be questioned whether the act of Congress framed to prevent the “importation of adulterated and spurious drugs and medicines,” has accomplished the humane purposes which suggested it; for while it has doubtless prevented the introduction of either inefficient or hurtful articles, it can have no influence over the manufacture and sale of adulterated medicines in our own country. The preparation of our own medical supplies will certainly inspire more confidence in their quality, as the direction of the work is intrusted to those who can have no other than a proper interest in the results.

I beg leave to refer to the remarks in my last report concerning the necessity of some augmentation of the medical corps. The present number is not considered more than adequate to the current demands of the navy, if all were able to share the duty; but when it is remembered that perhaps twelve of the sixty-nine surgeons are incapable of active service, by reason of age or infirmity, and that three of the seventy-nine assistant surgeons are permanently disabled by disease, the propriety of meeting this deficiency in the active list will, it is hoped, be acknowledged.

Number of surgeons required for service afloat and on shore.....	56
Number disabled or unfit for service	12
Number of assistant surgeons.....	79
Required for service, afloat and on shore	75
Number disabled, or unfit for service.....	3

Very respectfully, your obedient servant,

W. WHELAN.

Hon. JAS. C. DOBBIN,
Secretary of the Navy.

A.

Estimate of the amount required for the support of the Bureau of Medicine and Surgery for the year ending June 30, 1856, under acts of Congress approved March 3, 1853, and the 22d April and 4th August, 1854.

Salary of chief of bureau.....	\$3,000 00	
Salary of one clerk, 4th class.....	1,800 00	
Salary of two clerks, 2d class, at \$1,400 each, per acts of April 22 and August 4, 1854.....	2,800 00	
Salary of messenger, per acts of April 22 and August 4, 1854.....	840 00	
Salary of laborer, per act of August 4, 1854, \$480; and 20 per cent. additional, per decision of the Secretary of the Treasury of August 22, 1854.....	576 00	
		\$9,016 00
CONTINGENT EXPENSES.		
Blank books and stationery.....	350 00	
Miscellaneous items.....	100 00	
		450 00
Total required.....		9,466 00

W. WHELAN,
Chief of Bureau of Medicine and Surgery.

B.

Estimate from the Bureau of Medicine and Surgery of the amount required for the support of the medical department of ships afloat, navy yards, naval stations, marine corps, and coast survey, for the year ending June 30, 1856.

<i>Frigates—6.</i>		
Six at \$1,200 each		\$7,200 00
<i>Sloops—16.</i>		
Seven of 1st class, at \$800 each	\$5,600 00	
Six of 2d class, at \$700 each.....	4,200 00	
Three of 3d class, at \$600 each.....	1,800 00	
		11,600 00

REPORT OF THE
ESTIMATE—Continued.

<i>Steam-frigates—5.</i>		
Five of 1st class, at \$700 each.....		\$3,500 00
<i>Steamers—7.</i>		
Four of 1st class, at \$400 each.....	\$1,600 00	
Three of 2d class, at \$300 each.....	900 00	
		2,500 00
<i>Brigs—4.</i>		
Four at \$400 each.....		1,600 00
<i>Store-ships—7.</i>		
Seven at \$200 each.....		1,400 00
<i>Receiving-ships—4.</i>		
Three at \$700 each.....	2,100 00	
One at \$200.....	200 00	
		2,300 00
<i>Navy yards—7.</i>		
Portsmouth, N. H.....	100 00	
Boston	200 00	
New York.....	300 00	
Philadelphia and receiving-ship "Union"	300 00	
Washington	200 00	
Norfolk	300 00	
Pensacola.....	300 00	
		1,700 00
<i>Naval stations—3.</i>		
Marine barracks, Washington.....	1,000 00	
Naval School, Annapolis.....	400 00	
Observatory, and general relief of officers....	300 00	
		1,700 00

ESTIMATE—Continued.

<i>Coast Survey.</i>		
Three steamers at \$125 each.....	\$375 00	
One steamer at \$50.....	50 00	
Two schooners at \$50 each.....	100 00	
Temporary relief of sick seamen in vessels having no medical officer.....	300 00	
		\$825 00
Total required.....		34,325 00
Required last year.....		35,575 00

W. WHELAN,

Chief of Bureau of Medicine and Surgery.

No. 7.

HEADQUARTERS OF THE MARINE CORPS,

Washington, November 10, 1854.

SIR: The posts of the marine corps at Portsmouth, N. H., Boston, New York, Philadelphia, and Norfolk, remain in the same condition that they were when I made my last report to the department; while the force at Pensacola, so distinct from all other stations, and consequently so self-dependent for its own security, does not amount to twelve effective men. The barracks at all these stations, excepting those at Portsmouth, N. H., are so much decayed and so small as to render the erection of new ones necessary for the present comfort of the troops without any reference to their increase. The miserable house now occupied as barracks at New York was years ago abandoned as unfit for paupers, and is so decayed as to render its occupation by the troops unsafe for health. It is of wood, and the ground on which it is built is low and damp. It costs the United States \$2,000 a year, exclusive of repairs, which, from the condition of the building, must be heavy. Barracks could be built for \$30,000 or \$40,000. The barracks at Boston, Philadelphia, and Norfolk, now occupy ground required by the navy for its own purposes. They are small, inconvenient, and in a state of decay.

Paper No. 1, accompanying this, is a general return of the corps, which is now nearly full in its legal strength. It exhibits that the detachments of marines at the different barracks are so much reduced as to render it impossible to furnish the sentinels required; and constant applications are made by the commandants of the yards and the com-

manding marine officers for additions to their commands. These cannot be furnished while more than three-fourths of the corps are at sea, leaving on shore so small a number, and these either recruits or men having but a short time to serve.

The next paper (No. 2) shows what part of the corps is employed in ships-of-war now in commission. The guards in some of them are incomplete, even by the present table. These guards are too small for the duty to which they are subjected, scarcely one of them large enough to afford one relief to the daily guard that has preceded it on duty; while the guard so relieved, instead of resting and preparing its arms and accoutrements for future service, is put to other duty from necessity. It is not so in the English navy, where the guards are nearly three times as large as ours are. This great inequality is now respectfully placed before the department, and its mere presentation would seem to be amply sufficient to show its impolicy and injustice. This evil cannot, however, be remedied, except by an enlargement of the corps; and to this increase I would now ask your earnest attention.

When the present commandant entered the marine corps in 1806, it consisted of 48 sergeants, 48 corporals, 50 drummers and fifers, and 895 privates. In 1809, there were added to it 175 corporals and 594 privates. From this it will be seen that it was in 1806 nearly as large as it now is, and in 1809 considerably larger. The war with Tripoli was the probable cause of the addition to its first strength, but the close of that war did not bring any reduction. The hazard of war with England, and the embargo, together with the building of so many gun-boats, produced the large addition in 1809. This addition remained undiminished, and, in the early part of 1814, a further large addition was made to the corps.

At the close of the war with England, leaving the country in a most exhausted condition, all the arms of the service were necessarily greatly reduced, and in 1817 the marine corps was brought down to the peace establishment. By the act of the 30th June, 1834, it was remodelled, and slightly enlarged, and it has remained since under the provisions of that act. During the war with Mexico, an addition of officers and men was made; the act creating it providing that they should be disbanded at its close.

Such is a condensed account of the mutations in the marine corps from 1806 to this time. In 1817 it shared the fortune of the navy and the army, and its numbers were reduced, at least, in as great a proportion as either of those arms. The navy, however, was more fortunate than its co-arms, and, though extensively reduced in its sailors and other portions of its crews, provision was made for its future enlargement by appropriations for the purchase and collection of timber, &c.; it has since been greatly increased both in ships-of-war and in crews, while little or no addition has been made to the marine corps.

As it is now universally acknowledged that the marine corps is indispensable to the efficiency of the navy—and as it has, during a period of fifty years, without a single exception, been conspicuous for bravery and good conduct wherever employed, either with the navy or the army—it is certainly entitled to the fostering care of the department and the government.

It would add greatly to the efficiency of the corps if Congress would authorize a retired list. Some of the officers, from age, physical or other inability, are unfit to perform sea and other duty; the consequence is, it falls heavily on those who are efficient, and there are not a sufficient number to meet the details of the service.

The marines in all services are liable to be ordered on duty on land, where a knowledge of engineer and artillery duty is indispensable, both in science and in practice. Within the last few months, both in the Baltic and Black seas, large corps of marines have been landed from the allied fleets to co-operate with the land forces in important siege operations. In our service the officers of the marine corps are simply instructed in infantry tactics, and it is but seldom that they can be properly instructed in it; as, by reason of the small size of the corps, and the great demands upon it, it is impossible to keep even a company of men at headquarters for that purpose.

To render the marine corps as efficient as it might be, and to place its officers on an equal footing with those of our army and navy, and with those of the marine corps of other nations, it is indispensable that they should be thoroughly instructed in the service of light and heavy artillery, and in the construction of field-works and of permanent fortifications. Officers so instructed can be obtained by making its appointments from the graduates of the Military Academy at West Point, and solely in this way.

There are at present about fifty brevet second lieutenants attached to the army, and the academy yearly graduates more than are required for its use. Many of these would be willing to enter the marine corps. The vacancies in the marine corps might be thus filled up; or four additional cadets might be appointed to the academy especially for the marine corps. Either way is practicable. The first would simply require an order from the President to carry it into effect; the other, the action of Congress.

As I consider that the appointment of educated officers to the corps would do more to elevate its standing, and to make it useful to the country, than any other measure, I have to ask for this portion of my report the particular attention of the department.

At no period for thirty years has there existed such forcible reasons for a large increase of the marine corps as at the present time. I cannot, therefore, recommend a smaller addition than I have heretofore done—that is, double its present strength in rank and file.

I have, therefore, suggested the propriety of restoring to the corps the four captains, four 1st and four 2d lieutenants, dropped at the close of the Mexican war. I now renew this recommendation. With the limited number we now have, it is impossible to furnish officers to all the vessels-of-war which require them, or officers of the day at all the shore stations.

I have the honor to remain, sir, with great respect, your obedient servant,

ARCH. HENDERSON,
Brevet Brigadier General Commandant.

Hon. J. C. DOBBIN,
Secretary of the Navy.

No. 1.—General return of the officers, non-commissioned officers, musicians, and privates, of the United States Marine Corps, on the 6th day of November, 1854.

Stations, &c.	Bt. brig. gen. command't.	Commissioned staff.	Lieutenant colonel.	Majors.	Captains.	First lieutenants.	Second lieutenants.	Non-commissioned staff.	First sergeants.	Sergeants.	Corporals.	Musicians.	Drummers.	Fifers.	Privates.	Aggregate.	Remarks.
Headquarters.....	1	3	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	5	Washington city marine barracks: Brigadier General Henderson, the adjutant and inspector, quartermaster, paymaster, and aid-de-camp to the brigadier general commandant.
Marine barracks, Washington..					2	1	2	4	1	5	3	27	4	1	63	113	Eighteen privates returned here are boys learning music.
Guard at the navy yard, D. C..					1	1	.....	.....	1	1	3	.....	1	1	20	29	Lieutenant Cash, sick in quarters.
Brooklyn, N. Y.....				1	.....	3	1	.....	1	6	4	.....	1	1	35	53	
Charlestown, Mass.....				1	.....	.....	.....	.....	1	2	4	.....	1	1	47	58	
Gosport, Va.....				1	.....	.....	.....	.....	1	5	2	.....	.....	.....	31	41	
Philadelphia, Pa.....				1	.....	2	.....	.....	1	4	5	.....	2	1	40	56	
Portsmouth, N. H.....					1	1	.....	.....	1	1	3	.....	.....	.....	22	29	First Lieutenant and Brevet Captain Young, absent with leave, sick.
Warrington, Fla.....					1	1	.....	.....	1	1	2	.....	.....	.....	14	20	September 30, 1854.
Assistant quartermaster's office, N. Y.		1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	
Receiving-ship Pennsylvania...						1	.....	.....	1	1	2	.....	.....	1	21	27	
Receiving-ship Ohio.....						1	.....	.....	1	1	2	.....	.....	.....	21	26	
Receiving-ship North Carolina..					1	.....	.....	.....	1	1	2	.....	1	1	34	41	
Receiving-ship Union.....									1	.....	2	.....	.....	.....	15	18	

Steamer Mississippi.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
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General return of officers, non-commissioned officers, &c.—Continued.

Stations, &c.	Bt. brig. gen. command't.	Commissioned staff.	Lieutenant colonel.	Majors.	Captains.	First lieutenants.	Second lieutenants.	Non-commissioned staff.	First sergeants.	Sergeants.	Corporals.	Musicians.	Drummers.	Fifers.	Privates.	Aggregate.	Remarks.
Sloop Vandalia	...	...	...	...	...	...	1	...	1	...	2	...	1	...	19	24	February 28, 1854, when this guard was 1 second lieutenant, 2 sergeants, 2 corporals, 1 drummer, 18 privates; since which 1 sergeant transferred and 1 private joined.
Sloop St. Louis	...	...	...	...	...	...	1	...	1	1	2	...	1	1	18	25	January 31, 1854.
Sloop Levant	...	...	...	...	...	...	...	...	1	1	2	...	1	...	19	24	March 31, 1854.
Sloop Decatur	...	...	...	...	...	...	...	...	1	...	2	...	1	1	20	25	August 31, 1854.
Sloop Marion	...	...	...	...	...	...	...	...	1	...	2	...	1	1	18	23	June 30, 1854.
Sloop Dale	...	...	...	...	...	...	...	...	1	...	2	...	1	1	13	18	September 30, 1854.
Sloop Preble	...	...	...	...	...	...	...	...	1	...	2	...	...	...	5	8	October 31, 1854.
Brig Bainbridge	...	...	...	...	...	...	...	...	...	...	1	...	...	...	5	6	April 30, 1854.
Superintending recruiting service.	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	1	Lieutenant Colonel Samuel Miller, at Philadelphia, Pennsylvania.
Waiting orders	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	1	Captain and Brevet Major Marston, at Boston, Massachusetts.
Under orders	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	1	First Lieutenant and Brevet Captain Henry B. Watson, to proceed to Philadelphia and report for duty.
On special service	...	...	...	...	...	...	...	...	...	...	...	...	1	1	...	2	At the Naval School at Annapolis, Maryland.
Norfolk, Va., clothing store	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	1	First Lieutenant McNeill joined October 21, 1854.
On leave of absence	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	1	Lieutenant Butterfield, sick—to report monthly his condition to the department.

Recruiting rendezvous, N. Y. Appointed in the corps. Sloop Falmouth.	October 31, 1854.														Alexander J. Dallas, appointed a second lieutenant October 31, 1854. Preparing for sea at Norfolk, Virginia; the guard to join by November 10, 1854.	
	1	4	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	1	4	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Total.....	1	4	1	1	1	1	1	1	1	1	1	1	1	1	1	1,452

Captain and Brevet Major Archibald H. Gillespie, resigned; resignation accepted October 14, 1854.
CHARLES A. HENDERSON, Brevet First Lieutenant,
For PARKE G. HOWLE, Adjutant and Inspector.

HEADQUARTERS OF THE MARINE CORPS,
Adjutant and Inspector's Office, Washington, November 6, 1854.

No. 2.—Table showing the number of commissioned and non-commissioned officers, musicians, and privates of the United States marine corps, on sea duty and under orders for sea duty, on the 6th of November, 1854.

Vessels.	Captains.	First lieutenants.	Second lieutenants.	First sergeants.	Sergeants.	Corporals.	Drummers.	Fifers.	Privates.	Aggregate.
Receiving-ship Pennsylvania....		1	.....	1	1	2	.....	1	21	27
Receiving-ship Ohio.....		1	.....	1	1	2	.....	.....	21	26
Receiving-ship North Carolina..	1	.....	.....	1	1	2	1	1	34	41
Receiving-ship Union.....				1	.....	2	.....	.....	15	18
Steamer Mississippi.....		1	.....	1	2	4	1	1	38	48
Steamer Susquehanna.....				1	2	3	1	1	29	37
Steamer Powhatan.....		1	.....	1	2	3	1	1	37	46
Steamer San Jacinto.....			1	1	1	3	1	1	28	36
Steamer Saranac.....			1	1	1	3	1	1	26	34
Steamer Princeton.....			1	1	.....	2	1	1	17	23
Steamer Fulton.....				1	.....	2	.....	.....	5	8
Steamer Michigan.....		1	.....	1	.....	1	.....	.....	7	10
Steamer Massachusetts.....				1	.....	2	.....	.....	10	13
Frigate Independence.....	1	.....	1	1	2	4	1	1	40	51
Frigate Constitution.....	1	.....	.....	1	2	3	1	1	41	50
Frigate Columbia.....	1	.....	1	1	2	4	1	1	40	51
Frigate Cumberland.....		1	1	1	2	4	1	1	39	50
Frigate Savannah.....		1	1	1	2	4	1	1	38	49
Frigate St. Lawrence.....		1	.....	1	2	4	1	1	30	40
Sloop Macedonian.....		1	.....	1	1	2	1	1	21	28
Sloop Portsmouth.....			1	1	.....	2	1	1	14	20
Sloop Plymouth.....				1	1	2	1	1	18	24
Sloop St. Mary's.....			1	1	.....	2	1	1	19	25
Sloop Albany.....				1	.....	2	.....	.....	19	22
Sloop Germantown.....			1	1	.....	2	1	1	20	26
Sloop John Adams.....			1	1	.....	2	1	1	20	26
Sloop Falmouth.....			1	1	.....	2	1	1	20	26
Sloop Vincennes.....				1	1	2	1	1	21	27
Sloop Vandalia.....			1	1	.....	2	1	.....	19	24
Sloop St. Louis.....			1	1	1	2	1	1	18	25
Sloop Levant.....				1	1	2	1	.....	19	24
Sloop Decatur.....				1	.....	2	1	1	20	25
Sloop Marion.....				1	.....	2	1	1	18	23
Sloop Dale.....				1	.....	2	1	1	13	18
Sloop Preble.....				1	.....	2	.....	.....	5	8
Brig Bainbridge.....						1	.....	.....	5	6
Total.....	4	9	14	35	28	87	27	26	805	1,035

CHARLES A. HENDERSON,
Brevet First Lieutenant,
 For PARKE G. HOWLE,
Adjutant and Inspector.

HEADQUARTERS OF THE MARINE CORPS,
Adjutant and Inspector's Office, Washington, November 6, 1854.

HEADQUARTERS OF THE MARINE CORPS,
Washington, October 2, 1854.

SIR: I enclose to the department estimates from the quartermaster's office of the marine corps, for the year ending June 30, 1856.

I remain, most respectfully, yours,

ARCH. HENDERSON,
Brevet Brigadier General, Commandant.

Hon. J. C. DOBBIN,
Secretary of the Navy.

HEADQUARTERS MARINE CORPS,
Quartermaster's Office, Washington, October 2, 1854.

SIR: I have the honor to transmit herewith triplicate estimates of the expenses of the quartermaster's department marine corps for one year, commencing July 1, 1855, and ending June 30, 1856.

These estimates vary from those of the preceding year in nearly all the heads of appropriations; caused by estimating for two hundred men ordered to be enlisted by the President, and who have never before been estimated for, as will more fully appear from the explanation accompanying the estimates.

I am, sir, very respectfully, your obedient servant,

AUG. A. NICHOLSON,
Quartermaster Marine Corps.

Gen. ARCH'D HENDERSON,
Commandant U. S. Marine Corps, Headquarters.

Estimate of the expenses of the quartermaster's department United States marine corps for one year, from July 1, 1855, to June 30, 1856.

There will be required for the quartermaster's department of the marine corps for one year, commencing on the 1st of July, 1855, in addition to the balance then remaining on hand, the sum of one hundred and seventy-six thousand eight hundred and seventy-nine dollars and thirty-seven cents, as follows, viz:

1. For provisions.....	\$40,934 75
2. For clothing.....	55,264 00
3. For fuel.....	20,180 62
4. For military stores, viz: pay of armorers, repair of arms, purchase of accoutrements, ordnance stores, flags, drums, fifes, and other instruments..	9,000 00
5. For transportation of officers and troops, and expenses of recruiting.....	12,000 00
6. Repair of barracks, and rent of temporary barracks and offices where there are no public buildings for that purpose.....	8,000 00
7. Contingencies, viz: freight, ferriage, toll, cartage, wharfage, compensation to judges advocate, per diem for attending courts-martial, courts of inquiry, and for constant labor, house rent in lieu of quarters, burial of deceased marines, printing, stationery, postage, apprehension of deserters, oil, candles, forage, straw, furniture, bed-sacks, spades, shovels, axes, picks, carpenters' tools, keep of a horse for the messenger, pay of matron, washerwomen, and porter at hospital at headquarters, for the introduction of gas into the quarters of the commandant, officers' quarters, and hospital at headquarters, and for lighting.....	31,500 00
Amount required.....	176,879 37

Respectfully submitted:

AUG. A. NICHOLSON, *Quartermaster Marine Corps.*

REPORT OF THE PROVISIONS.

For whom required.	Enlisted men.	Washerwomen.	Matron.	Total.	Rations at fifteen cents per day.	Rations at twenty cents per day.	Amount.
Non-commissioned officers, musicians, privates, and washerwomen.....	712	33	.....	745	1	.....	\$40,788 75
Matron and washerwomen.....	.....	1	1	2	.....	1	146 00
Amount required.....	.....	.....	.....	.....	.....	.....	40,934 75

CLOTHING.

For whom required.	Enlisted men.	Amount.
Non-commissioned officers, musicians, and privates, at \$36 per annum.....	1,424	\$51,264 00
500 watch-coats, at \$8 each.....	.....	4,000 00
Amount required.....	.....	55,264 00

FUEL.

For whom required.	Number.	Cords.	Feet.	Cords.	Feet.
Brevet brigadier general commandant.....	1	36	4	36	4
Lieutenant-colonel.....	1	26	.....	26	.....
Majors.....	4	26	.....	104	.....
Staff majors.....	3	26	.....	78	.....
Staff captains.....	1	21	2	21	2
Aid-de-camp.....	1	16	4	16	4
Captains.....	12	21	2	255	.....
Lieutenants, 1st and 2d.....	23	16	4	379	4
Non-commissioned officers, musicians, privates, washerwomen, and servants.....	746	1	4	1,119	.....
Matron to hospital, headquarters.....	1	1	4	1	4
Hospital at headquarters.....	1	33	.....	33	.....
Hospitals at other posts.....	5	16	4	82	4
Armory at headquarters.....	1	30	.....	30	.....
Mess-rooms for officers.....	7	3	4	24	4
Offices of commandant and staff, and commanding officers of posts.....	15	7	.....	105	.....
Officers-of-day's rooms.....	7	3	4	24	4
Guard-rooms at barracks and navy yards.....	9	21	.....	189	.....
Stores for clothing and other supplies.....	3	5	.....	15	.....
One-fourth additional on 600 cords, the quantity supposed to be required for stations, during four winter months, north of latitude 39 degrees....	.....	.....	.....	150	.....
Amount required.....	.....	.....	.....	2,690	6
Which, at \$7 50 per cord, is .....	.....	.....	.....	.....	\$20,180 62

Explanation of the estimates for the quartermaster's department of the marine corps, for the fiscal year ending June 30, 1856.

The estimates differ from those of the preceding year in provisions, clothing, fuel, military stores, and contingencies, consequent on the increase of 200 men, enlisted by direction of the President of the United States, according to first section of an act making appropriations for the naval service of the United States, approved 3d of March, 1849, as follows, viz:

In provisions.....	\$10,950 00
In clothing	3,200 00
In fuel.....	5,986 12
In military stores	1,000 00
In contingencies.....	6,500 00

\$1,500 of this increase in contingencies is for the purpose of introducing gas into the quarters and hospital at headquarters, and for lighting the same.

In repair of barracks.....	2,000 00
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This increase is necessary, in consequence of the increased necessary repairs required to make the quarters occupied by the troops at the several stations comfortable.

Fuel having advanced in price at all the stations, it is estimated at \$7 50 per cord instead of \$6, as heretofore.

HEADQUARTERS U. S. MARINE CORPS,
Washington, October 3, 1854.

SIR: I enclose estimates from the office of the paymaster of the corps, for the year ending June 30, 1856.

I remain, most respectfully, your obedient servant,

ARCH. HENDERSON,

Brevet Brigadier General, Commandant.

Hon. J. C. DOBBIN, *Secretary of the Navy.*

HEADQUARTERS MARINE CORPS,
Paymaster's Office, October 3, 1854.

SIR: I have the honor to enclose estimates in triplicate for pay and subsistence, and pay for undrawn clothing, for the United States marine corps, for the year ending June 30, 1856.

The estimate for the pay of commissioned officers is increased three thousand four hundred and fifty-six dollars, being an increase in the pay of servants, under the act approved August 4, 1854, increasing the pay of the rank and file of the army.

The estimates for the pay of non-commissioned officers, musicians, and privates, and bounty for re-enlistment, are increased eighty-four thousand five hundred and eighty-seven dollars, under the first section of the act approved August 5, 1854, making appropriations for the naval service for the year ending June 30, 1855.

The estimate for the pay of clerks to the brigadier general commandant, adjutant and inspector, paymaster and quartermaster, is in-

creased one thousand two hundred and ninety-six dollars, being twenty per cent. addition to their former pay, authorized by the act approved April 22, 1854.

The estimates for two months' pay, two months' rations, and two months' clothing for unexpired time, are stricken out, these allowances being superseded by the act of August 5, 1854.

Increase pay of officers' servants.....	\$3,456
Increase pay of clerks.....	1,296
Increase pay of non-commissioned officers, musicians, and privates	84,587
	89,339
Decrease two months' unexpired time, pay, rations and clothing	3,800
Actual increase.....	<u>85,539</u>

I am, sir, very respectfully, your obedient servant,

WM. W. RUSSELL,

Paymaster United States Marine Corps.

Brig. Gen. A. HENDERSON,

Commandant U. S. Marine Corps, Headquarters.

Detail estimate of pay and subsistence of officers, musicians, and privates of the United States marine corps, and pay for undrawn clothing, from July 1, 1855, to June 30, 1856.

Rank and grade.	Number.	PAY.				SUBSISTENCE.			Aggregate.
		Pay per month.	Number of servants at eleven dollars per month.	Number of servants at twelve dollars per month.	Total.	Number of rations per day, at twenty cents per ration.	Number of extra or double rations per day, at twenty cents per ration.	Total.	
Brigadier general commandant	1	\$75 00	2	.....	\$1,164 00	6	6	\$876 00	\$2,040 00
Lieutenant colonel.....	1	60 00	2	.....	984 00	5	5	730 00	1,714 00
Majors	4	50 00	2	.....	3,456 00	4	4	2,336 00	5,792 00
Adjutant and inspector, paymaster and quartermaster.....	3	60 00	.....	2	3,024 00	4	.....	876 00	3,900 00
Assistant quartermaster	1	50 00	.....	1	744 00	4	.....	292 00	1,036 00
Captains commanding posts and at sea	8	50 00	1	.....	5,856 00	4	4	4,672 00	10,528 00
Captains.....	5	40 00	1	.....	3,060 00	4	.....	1,460 00	4,520 00
First lieutenants commanding guards at sea.....	7	40 00	1	.....	4,284 00	4	4	4,088 00	8,372 00
First lieutenants.....	13	30 00	1	.....	6,396 00	4	.....	3,796 00	10,192 00
Second lieutenants.....	20	25 00	1	.....	8,640 00	4	.....	5,840 00	14,480 00
Sergeant major and quartermaster sergeant, second enlistment	2	23 00	.....	.....	552 00	.....	.....	.....	552 00
Drum and fife majors, second enlistment.....	2	22 00	.....	.....	528 00	.....	.....	.....	528 00
Orderly sergeants and first sergeants of guards at sea, second enlistment	40	22 00	.....	.....	10,560 00	.....	.....	.....	10,560 00
Sergeants, first enlistment	20	17 00	.....	.....	4,080 00	.....	.....	.....	4,080 00
Sergeants, second enlistment	36	19 00	.....	.....	8,208 00	.....	.....	.....	8,208 00
Corporals, first enlistment	51	13 00	.....	.....	7,956 00	.....	.....	.....	7,956 00
Corporals, second enlistment.....	45	15 00	.....	.....	8,100 00	.....	.....	.....	8,100 00
Drummers and fifers, first enlistment.....	20	12 00	.....	.....	2,880 00	.....	.....	.....	2,880 00
Drummers and fifers, second enlistment	40	14 00	.....	.....	6,720 00	.....	.....	.....	6,720 00
Privates, first enlistment.....	768	11 00	.....	.....	101,376 00	.....	.....	.....	101,376 00
Privates, second enlistment	400*	13 00	.....	.....	62,400 00	.....	.....	.....	62,400 00

Detail estimate of pay and subsistence of officers, pay of non-commissioned officers, &c.—Continued.

Rank and grade.	Number.	PAY.			SUBSISTENCE.			Aggregate.
		Pay per month.	Number of servants at eleven dollars per month.	Number of servants at twelve dollars per month.	Number of rations per day, at twenty cents per ration.	Number of extra or double rations per day, at twenty cents per ration.	Total.	
Clerks to brigadier general commandant, adjutant and inspector, paymaster, quartermaster, and assistant quartermaster.	9	.....	.....	.....	.....	.....	.....	\$8,312 16
Hospital steward, nurse at hospital, and messenger at headquarters	3	\$1 50 per day.	.....	.....	.....	.....	.....	1,642 50
Messenger to assistant quartermaster	1	1 00 per day.	.....	.....	.....	.....	.....	365 00
Clerk in the marine clothing store, Norfolk	1	23 44	.....	.....	.....	.....	.....	281 28
Additional rations to officers for five years' service .....	.....	.....	.....	.....	207	.....	\$15,111 00	15,111 00
Bounty for re-enlistment (non commissioned officers)	25	.....	.....	.....	.....	.....	.....	1,119 00
Bounty for re-enlistment (musicians and privates)	125	.....	.....	.....	.....	.....	.....	4,125 00
Officers' servants, at \$8 50 per month for rations and clothing.	72	.....	.....	.....	.....	.....	7,344 00	7,344 00
Undrawn clothing .....	.....	.....	.....	.....	.....	.....	9,000 00	9,000 00
							56,421 00	323,233 94
							266,812 94	

Respectfully submitted:

WM. W. RUSSELL,
Paymaster United States Marine Corps.

HEADQUARTERS OF THE MARINE CORPS, Paymaster's Office, October 3, 1854.

RECAPITULATION, MARINE CORPS.

For pay	\$323,233 94
For provisions	40,934 75
For clothing	55,264 00
For fuel	20,180 62
For military stores	9,000 00
For transportation	12,000 00
For repairs of barracks, &c.	8,000 00
For contingent	31,500 00
	500,113 31

No. 8.

General estimate of the sums required for the support of the office of the Secretary of the Navy, and the several bureaus of the Navy Department, for the fiscal year ending June 30, 1856.

Office, or bureau.	Salaries.	Contingent.
Office of the Secretary of the Navy.....	\$29,296 00	\$2,840 00
Bureau of Ordnance and Hydrography.....	12,316 00	750 00
Bureau of Yards and Docks	17,092 00	800 00
Bureau of Construction, Equipment, and Repair.....	20,792 00	800 00
Bureau of Provisions and Clothing.....	8,816 00	700 00
Bureau of Medicine and Surgery.....	9,016 00	450 00
	97,328 00	6,340 00

RECAPITULATION.

Salaries	\$97,328 00
Contingent.....	6,340 00

Appropriated for 1854-'55.

Salaries	\$95,752 00
Contingent.....	7,150 00

No. 9.

General estimate of the sums required for the expenses of the Southwest Executive Building, for the fiscal year ending June 30, 1856.

CIVIL.

For salaries.....	\$2,650 00
For contingent.....	3,865 00

Appropriated for 1854-'55.

Salaries	\$2,400 00
Contingent.....	3,865 00

SPECIAL OBJECTS.					
<i>Navy-yards.</i>					
At Portsmouth, New Hampshire.....				\$89,258 00	
At Boston.....				226,900 00	
At New York.....				381,000 00	
At Philadelphia.....				66,700 00	
At Washington.....				198,586 00	
At Norfolk.....				243,158 00	
At Pensacola.....				267,470 00	
At San Francisco.....				235,000 00	
At Sackett's Harbor.....				2,000 00	
					\$1,760,072 00
<i>Hospitals.</i>					
At Boston.....				6,000 00	
At New York.....				19,270 00	
At Philadelphia.....				7,100 00	
At Norfolk.....				1,200 00	
At Pensacola.....				19,828 00	
					53,398 00
<i>Magazines.</i>					
At Portsmouth, New Hampshire.....				500 00	
At Boston.....				22,000 00	
At New York.....				110,000 00	
At Philadelphia.....				20,000 00	
At Washington.....				9,500 00	
At Norfolk.....				10,000 00	
At Pensacola.....				8,000 00	
					180,000 00
<i>Miscellaneous.</i>					
Pay of superintendents.....				124,480 00	
Nautical books, hydrographical office, &c.....					124,480 00
Naval Academy.....				69,910 00	
Transportation of the mail.....				57,044 22	
					1,408,850 00
					69,910 00
					57,044 22
					1,408,850 00

No. 10.—Summary statement of the estimates for the navy for the fiscal year 1855-'56—Continued.

HEADS.	Office of the Secretary of the Navy.	Bureau of Ordnance and Hydrography.	Bureau of Yards and Docks.	Bureau of Construction, Equipment, and Repair.	Bureau of Provisions and Clothing.	Bureau of Medicine and Surgery.	Aggregates.
Nautical Almanac.....	\$20,880 00	.....	.....	.....	.....	.....	\$20,880 00
Six steam-frigates.....	.....	.....	.....	\$3,000,000 00	.....	.....	3,000,000 00
Stevens's war steamer.....	.....	.....	.....	250,000 00	.....	.....	250,000 00
Continuation of basin and railway at navy-yard, San Francisco.....	.....	.....	\$400,000 00	.....	.....	.....	400,000 00
	1,429,730 00	126,954 22	2,517,950 00	3,250,000 00	.....	.....	7,324,634 22
AGGREGATES—NAVY.							
Navy proper.....	.....	.....	.....	.....	\$3,417,184 00	.....	.....
Marine corps.....	.....	.....	.....	.....	500,113 31	.....	.....
Special objects—	.....	.....	.....	.....	.....	.....	.....
Navy-yards.....	.....	.....	.....	\$1,760,072 00	.....	.....	.....
Hospitals.....	.....	.....	.....	53,398 00	.....	.....	.....
Magazines.....	.....	.....	.....	180,000 00	.....	.....	.....
Miscellaneous.....	.....	.....	.....	5,331,164 22	.....	.....	.....
				<u>7,324,634 22</u>			
					<u>16,241,931 53</u>		

No. 11.

General estimate of the sums required for the support of the navy for the fiscal year commencing on the 1st day of July, 1855, and ending on the 30th day of June, 1856.

Heads of appropriation.	Estimated for 1855-'56.	Estimated for 1854-'55.	Appropriated for 1854-'55.
For pay of commission, warrant, and petty officers, and seamen, including the engineer corps..... For provisions for commission, warrant, and petty officers, and seamen, including engineers, and also marines attached to vessels for sea service For surgeons' necessities and appliances for the sick and hurt of the navy, including the marine corps... For increase, repair, armament and equipment of the navy, including the wear and tear of vessels in commission, fuel for steamers, and purchase of hemp for the navy..... For ordnance and ordnance stores, including incidental expenses..... For contingent expenses that may accrue for the following purposes, viz: freight and transportation; printing and stationery; advertising in newspapers; books, maps, models, and drawings; purchase and repair of fire-engines and machinery; repairs of, and attending to, steam-engines in navy yards; purchase and maintenance of horses and oxen, and driving teams; for carts, timber wheels, and the purchase and repair of workmen's tools; postage of public letters; furniture for government houses; fuel, oil, and candles for navy yards and shore stations; pay of watchmen, and incidental labor not chargeable to any other appropriation; transportation to and labor attending the delivery of provisions and stores on foreign stations; wharfage, dockage, and rent; travelling expenses of officers and others under orders; funeral expenses; store and office rent; stationery; fuel; commissions and pay of clerks to navy agents and store-keepers; flags, awnings, and packing-boxes; premiums and other expenses of recruiting; apprehending deserters; per diem pay to persons attending courts-martial and courts of inquiry; and other services authorized by law; pay to judges advocate; pilotage and towage of vessels, and assistance to vessels in distress; for bills of health, and quarantine expenses of vessels of the United States navy in foreign ports	\$3,515 111 00 686,200 00 34,325 00 2,799,500 00 540,000 00	*\$2,992,648 00 686,200 00 35,575 00 3,294,950 00 250,000 00	\$3,367,648 00 686,200 00 35,575 00 2,534,950 00 200,000 00
	842,048 00	706,860 00	706,860 00
	8,417,184 00	7,966,233 00	7,531,233 00

* In addition to this sum, the department subsequently, in a letter addressed to the chairman of the Committee of Ways and Means, dated July 13, 1854, asked for \$375,000, in order to increase the wages of seamen in the navy; which having been allowed, explains the apparent excess of the sum appropriated for 1854-'55 over that estimated for.

General estimate of the sums required for the support of the marine corps for the fiscal year commencing on the 1st day of July, 1855, and ending on the 30th day of June, 1856.

Heads of appropriation.		Estimated for 1855-'56.	Estimated for 1854-'55.	Appropriated for 1854-'55.
For pay of the officers, non-commissioned officers, musicians, and privates, clerks, messengers, stewards, servants, &c.; for rations and clothing for servants; subsistence and additional rations for five years' service of officers; for undrawn clothing and rations, bounties for re-enlistments, and pay for unexpired terms of previous service.....		\$323,233 94	\$237,694 94	\$237,116 44
For provisions for marines serving on shore.....		40,934 75	29,984 75	29,984 75
For clothing.....		55,264 00	52,064 00	52,064 00
For fuel.....		20,180 62	14,194 50	14,194 50
For military stores, repairs of arms, pay of armorer; for accoutrements, ordnance stores, flags, drums, fifes, and musical instruments.....		9,000 00	8,000 00	8,000 00
For transportation of officers and troops, and expenses of recruiting.....		12,000 00	12,000 00	12,000 00
For repairs of barracks, and rent of temporary barracks and offices.....		8,000 00	6,000 00	6,000 00
For contingent expenses, viz: freight, ferriage, cartage, and wharfrage; compensation to judges advocate; per diem for attending courts-martial and courts of inquiry; for constant labor; house rent, in lieu of quarters; burial of deceased marines; printing, advertising, stationery, forage, postage, pursuit of deserters, candles, oil, straw, furniture, bed-sacks, spades, shovels, axes, picks, and carpenters' tools; expense of a horse for messenger; pay of matron, washerwoman, and porter, for the hospital at headquarters.....		31,500 00	25,000 00	25,000 00
		500,113 31	384,938 19	384,359 69

No. 13.

General estimate of the sums required for special objects under the Navy Department for the fiscal year commencing on the 1st day of July, 1855, and ending on the 30th day of June, 1856.

Heads of appropriation.	Estimated for 1855-'56.	Estimated for 1854-'55.	Appropriated for 1854-'55.
For improvements and repairs at navy yards and stations.	\$1, 760, 072 00	\$1, 425, 261 00	\$1, 173, 539 00
For repairs of hospital buildings and their dependencies.	53, 398 00	40, 051 00	15, 626 00
For repairs of magazine buildings and their dependencies.	180, 000 00	141, 974 00	38, 224 00
For the pay of superintendents, naval constructors, and civil establishments of navy yards and stations.	124, 480 00	115, 350 00	115, 350 00
For nautical books, maps, charts, and binding; instruments, and repairs thereof; wrought-iron fence for the north side of the enclosure of the Observatory, and all expenses of the Hydrographical office.	69, 910 00	84, 010 00	47, 760 00
For improvement and repair of buildings and grounds and support of the Naval Academy at Annapolis, Maryland.	57, 044 22	53, 768 00	39, 678 00
For transportation of the mail.	1, 468, 850 00	1, 496, 250 00	.....
For preparing for publication the American Nautical Almanac.	20, 880 00	22, 680 00	20, 880 00
For six steam-frigates.	3, 000, 000 00	.....	3, 000, 000 00
For Stevens's war steamer.	250, 000 00	.....	.....
For continuation of basin and railway at navy yard, San Francisco.	400, 000 00	.....	.....
7, 324, 634 22	3, 379, 344 00	4, 451, 057 00	

No. 14.

TREASURY DEPARTMENT,
Second Comptroller's Office, November 11, 1854.

SIR: I have the honor to transmit, in duplicate, the annual statement of the appropriations for the Navy Department for the fiscal year 1853-'4, showing the balances of appropriations on the 1st of July, 1853; the appropriations made for the fiscal year 1853-'4; the repayments and transfers in same time; the amounts applicable to the service of the year 1853-'4; the amounts drawn by requisitions from the treasury in same period; and, finally, the balances on the 30th of June, 1854, with such sum specially designated as has been carried to the surplus fund; prepared in pursuance of an act of Congress approved May 1, 1820.

Very respectfully, sir, your obedient servant,

J. M. BRODHEAD,

Comptroller.

Hon. J. C. DOBBIN,
Secretary of the Navy.

Statement of the appropriations for the service of the Navy Department from July 1, 1853, to June 30, 1854: made in pursuance of the provisions of the second section of the act of Congress of May 1, 1820, entitled "An act in addition to the several acts for the establishment of the Treasury, War, and Navy Departments."

Heads of appropriations.	Balances of appropriations July 1, 1853.	Appropriations for fiscal year 1853-'54.	Repayments from July 1, 1853, to June 30, 1854.	Amounts applicable to the service of the fiscal year 1853-'54.	Amounts drawn by requisitions from the treasury during the fiscal year 1853-'54.	Balances June 30, 1854.
Pay of the navy.....	\$845 57	\$2, 880, 148 00	\$296, 494 41	\$3, 177, 487 98	\$3, 154, 521 59	\$22, 966 39
Provisions of the navy.....	334, 371 45	686, 200 00	34, 801 13	1, 055, 372 58	784, 781 19	270, 591 39
Contingent expenses.....	63 37	600, 500 00	92, 626 73	693, 190 10	658, 838 41	34, 351 69
Extra pay to officers, &c., serving in Pacific. (Indefinite.).....	.....	862, 869 88	.....	862, 869 88	862, 869 88	.....
Extra pay to officers engaged in astronomical expedition to Chili. (Indefinite.).....	.....	4, 603 41	.....	4, 603 41	4, 603 41	.....
Prize money.....	39, 380 82	9, 551 03	2, 040 36	50, 972 21	1, 000 00	49, 972 21
Relief of sufferers by San Francisco. (Indefinite).....	.....	1, 047 22	.....	1, 047 22	1, 047 22	.....
Military contributions in Mexico.....	1, 083 72	3, 000 00	.....	4, 083 72	2, 541 59	1, 542 13
Pay of superintendents, &c.....	22, 137 12	108, 650 00	82	130, 787 94	105, 073 48	25, 714 46
Increase, repairs, &c.....	42, 923 60	2, 141, 450 00	232, 456 17	2, 416, 829 77	2, 371, 990 84	44, 838 93
Six steam-frigates.....	.....	3, 000, 000 00	.....	3, 000, 000 00	112, 804 62	2, 887, 195 38
Steam mail service.....	.....	1, 496, 250 00	.....	2, 045, 969 83	1, 534, 769 14	511, 200 69
Navy hospital fund.....	549, 719 83	.....	.....	186, 538 89	66, 225 81	120, 313 08
Clothing of navy.....	150, 705 72	.....	35, 833 17	773, 923 30	331, 432 63	442, 490 67
Surgeons' necessities and appliances.....	635, 134 51	.....	138, 788 79	71, 776 09	42, 115 51	29, 660 58
Testing alimentary substances.....	15, 834 08	37, 300 00	18, 642 01	5, 500 00	3, 020 33	2, 479 67
Nautical Almanac.....	500 00	5, 000 00	.....	23, 695 00	20, 939 10	2, 755 90
Meteorological observations.....	4, 295 00	19, 400 00	.....	2, 553 77	1, 750 00	803 77
Books, maps, &c., of hydrographical office.....	.....	2, 000 00	553 77	95, 266 71	71, 367 62	23, 899 09
Naval School.....	28, 157 10	61, 900 00	5, 209 61	140, 466 86	123, 741 00	16, 725 86
	56, 407 86	84, 059 00				

STATEMENT—Continued.

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REPORT OF THE

Heads of appropriations.	Balances of appropriations July 1, 1853.	Appropriations for fiscal year 1853-54.	Repayments from July 1, 1853, to June 30, 1854.	Amounts applicable to the service of the fiscal year 1853-54.	Amounts drawn by requisitions from the treasury during the fiscal year 1853-54.	Balances June 30, 1854.
Coal depot at Key West.....	\$20,000 00	\$12,247 05	\$107 00	\$20,107 00	\$11,162 00	\$8,945 00
Lien on lands at Brooklyn.....	.....	.....	.....	12,247 05	12,247 05	.....
Navy yard, Portsmouth, N. H.....	16,479 39	53,107 00	18 03	69,604 42	69,604 42	.....
Navy yard, Boston.....	24,767 93	81,460 00	4,920 69	111,148 62	56,608 47	54,540 15
Navy yard, New York.....	26,205 59	249,320 00	5,162 64	280,688 23	262,698 05	17,990 18
Navy yard, Philadelphia.....	27,380 38	23,925 00	1,865 54	53,170 92	39,366 31	13,804 61
Navy yard, Washington.....	51,996 97	162,512 00	7,563 01	222,071 98	164,185 27	57,886 71
Navy yard, Norfolk.....	22,398 38	114,600 00	2,860 02	139,858 40	131,670 95	8,187 45
Navy yard, Pensacola.....	15,111 90	225,800 00	1,651 17	242,563 07	174,662 02	67,901 05
Navy yard, Memphis.....	32,490 20	48,776 00	4,282 40	85,548 60	55,020 77	30,527 83
Navy yard, Sackett's Harbor.....	.....	.....	18 20	18 20	.....	18 20
Navy yard, San Francisco.....	14,299 00	100,000 00	.....	114,209 00	22,558 01	91,650 99
Hospital at Boston.....	1,342 47	600 00	.....	1,942 47	822 98	1,119 49
Hospital at New York.....	24,897 78	300 00	.....	25,197 78	25,197 78	.....
Hospital at Philadelphia.....	6,426 00	8,442 42	2,836 95	17,705 37	15,176 00	2,529 37
Hospital at Washington.....	400 00	.....	.....	400 00	400 00	.....
Hospital at Norfolk.....	2,318 42	11,168 93	.....	13,487 35	4,322 33	9,165 02
Hospital at Pensacola.....	1,500 07	36,325 00	2,000 38	39,825 45	15,111 55	24,713 90
Magazine at Boston.....	200 00	3,280 63	.....	3,480 63	338 00	3,142 63
Magazine at New York.....	1,013 51	4,916 32	.....	5,929 83	2,409 26	3,520 57
Magazine at Washington.....	150 00	6,300 00	.....	6,450 00	.....	6,450 00
Magazine at Norfolk.....	.....	6,568 42	20 13	6,588 55	.....	6,588 55
Magazine at Pensacola.....	.....	950 00	.....	950 00	950 00	.....
Dry dock at Portsmouth, N. H.....	.....	2,900 85	.....	2,900 85	.....	2,900 85
Dry dock at Philadelphia.....	3,319 95	.....	.....	3,319 95	.....	3,319 95

Dry dock, California.....	24,400 00	.....	.....	24,400 00	3,484 68	20,915 32
Basin and railway, California.....	.....	150,000 00	.....	150,000 00	.....	150,000 00
Dry dock at Pensacola.....	.....	11,119 13	.....	11,119 13	.....	11,119 13
Purchase of marine paint.....	507 00	.....	.....	507 00	.....	507 00
Survey of coast between Apalachicola bay and the Mississippi.....	348 18	.....	.....	348 18	.....	348 18
Property destroyed at Washington.....	525 00	.....	.....	525 00	.....	525 00
Purchase of vessels captured on Lake Erie.....	.....	.....	80 24	80 24	*80 24	.....
Mexican hostilities.....	.....	.....	354 72	354 72	354 72	.....
Relief of James Glynn and others, act February 22, 1849. (Indefinite).....	.....	1,338 70	.....	1,338 70	1,338 70	.....
Relief of widows and orphans of forward officers of brig Somers, act August 14, 1848. (Indefinite.).....	.....	108 00	.....	108 00	108 00	.....
Relief of widows, &c., of officers and men of the brig Washington, act February 3, 1853. (Indefinite).....	.....	396 00	.....	396 00	396 00	.....
Relief of Louis M. Goldsborough and others, act March 3, 1853. (Indefinite).....	.....	4,150 69	.....	4,150 69	4,150 69	.....
Relief of Henry La Reintree, act March 3, 1847. (Indefinite).....	.....	300 00	.....	300 00	300 00	.....
Relief of executors of John E. Bispham, act April 12, 1854. (Indefinite).....	.....	913 69	.....	913 69	913 69	.....
Pay of marine corps.....	18,239 68	223,530 44	49,093 71	290,863 83	261,723 62	29,140 21
Provisions, marine corps.....	2,088 90	29,984 75	.....	32,073 65	32,073 65	.....
Contingent, marine corps.....	.....	25,000 00	.....	25,000 00	25,000 00	.....
Clothing, marine corps.....	.....	52,064 00	1,021 14	53,085 14	53,085 14	.....
Fuel, marine corps.....	.....	14,194 50	26 87	14,221 37	14,221 37	.....
Transportation, &c., marine corps.....	.....	12,000 00	.....	12,000 00	12,000 00	.....
Military stores, marine corps.....	.....	8,000 00	.....	8,000 00	8,000 00	.....
Repairs of barracks, marine corps.....	.....	6,000 00	7,061 23	13,061 23	13,061 23	.....
Total.....	2,220,276 45	13,696,528 06	948,391 04	16,865,195 55	11,750,236 32	5,114,959 23

* Carried to the surplus fund.

STATEMENT—Continued.

RECAPITULATION.

Amount applicable to the service of the fiscal year 1853-'54, as per aggregate of fourth column.....	\$16,865,195 55
From which deduct amount of refunding and transfer requisitions, as per third column.....	948,391 04
Will show the amount applicable to the above period.....	15,916,804 51
From which deduct amount drawn by requisitions from the treasury, as per aggregate of fifth column.....	\$11,750,236 32
From which last sum deduct amount drawn by transfer and refunding requisitions, as per third column.....	948,391 04
	10,801,845 28
Will leave the aggregate of the fifth column of balances on June 30, 1854	5,114,959 23

TREASURY DEPARTMENT,
Second Comptroller's Office, November 11, 1854.

No. 15.

TREASURY DEPARTMENT, FOURTH AUDITOR'S OFFICE,
December 2, 1854.

SIR: I have the honor to transmit, herewith, two copies of an abstract of the expenditures of the navy under the head of contingent expenses, as settled and allowed at this office, from the 1st of July, 1853, to the 30th of June, 1854.

I have the honor to be, sir, very respectfully, your obedient servant,
A. O. DAYTON.

Hon. J. C. DOBBIN,
Secretary of the Navy.

No. 15.

Abstract of expenditures under the head of contingent expenses of the navy, as settled and allowed at the office of the Fourth Auditor of the Treasury, from the 1st of July, 1853, to the 30th of June, 1854, inclusive.

Ex. Doc. 1 — 39*

No. of report.	Date.	Names.	Rank.	Contingent expenses.	Contingent marine corps.	Purposes.
9948	July 5	James Glynn	Commander	\$193 13	.....	Travel.
9955	12	T. P. McBlair	Purser	1, 003 58	.....	Pilotage, stationery, &c.
9958	14	J. H. Wright	Navy agent	11, 799 20	.....	Stationery, advertising, travelling, &c.
9959	16	W. E. Everett	Chief engineer	421 00	.....	Travelling expenses.
9963	21	D. Fauntleroy	Purser	4, 616 32	.....	Mechanics' pay, &c.
9966	25	S. Forrest	do.	1, 686 52	.....	Postage, mechanics' pay, &c.
9968	27	W. Ryan	Salting-master	375 00	.....	Travel—China to the United States.
9969	29	H. M. Hieskell	Purser	5, 652 35	.....	Mechanics' pay, &c.
9971	30	W. H. Le Roy	Navy agent	20, 932 96	.....	Travel, freight, advertising, &c.
9972	Aug. 1	N. Moses	do.	2, 072 03	.....	Postage, commissions, &c.
9978	2	B. D. Heriot	do.	306 28	.....	Travel, &c.
9979	5	do.	do.	471 51	.....	Do.
9980	5	A. A. Nicholson	Quarterm'r marine corps	.....	\$4, 648 52	Officers' quarters, postage, &c.
9982	13	B. D. Wright	Navy agent	664 68	.....	Advertising, printing, travel, &c.
9983	13	S. W. Goden	Lieutenant	694 88	.....	Travelling expenses.
9984	13	W. Anderson	Navy agent	434 37	.....	Postage, freight, &c.
9985	16	J. H. Lathrop	do.	23, 025 92	.....	Commissions, travel, &c.
9988	23	J. H. Wright	do.	4, 850 51	.....	Travel, postage, &c.
9989	26	F. Mallory	do.	16, 674 13	.....	Advertising, travel, freight, &c.
9990	29	A. Welch	Purser	2, 111 01	.....	Travel, transportation, &c.
10000	15	E. O. Perrin	Acting purser	2, 261 17	.....	Mechanics' pay, &c.
3	20	W. Hindman	do.	21 05	.....	Travel.
4	20	do.	Navy agent	2, 063 86	.....	Postage, freight, travel, &c.
5	21	E. O. Perrin	do.	1, 553 21	.....	Do.
7	23	G. F. Cutter	Purser	20 47	.....	Travel.
10	30	A. E. Watson	do.	1, 053 18	.....	Mechanic's pay, &c.
11	1	W. Sloanaker	Navy agent	4, 936 10	.....	Commissions, travel, &c.

No. 15—Continued.

No. of report.	Date.	Names.	Rank.	Contingent expenses.	Contingent marine corps.	Purposes.
15	Oct. 3	H. M. Hieskell	Purser	\$2,420 93	.....	Mechanics' pay, &c.
16	4	T. M. Taylor	do	264 31	.....	Pilotage, stationery, &c.
17	4	G. Loyall	Navy agent	7,117 07	.....	Travel, freight, &c.
22	7	A. Day	do	6,699 39	.....	Rent, travel, &c.
26	10	J. H. Briscoe	do	1,427 39	.....	Travel, advertising, &c.
34	22	S. Forrest	Purser	1,884 15	.....	Mechanics' pay, &c.
37	26	J. J. Jones	do	2,408 99	.....	Pilotage, towage, &c.
42	2	W. A. Christian	do	553 31	.....	Travel, transportation, pilotage.
43	4	C. Swackhamer	Navy agent	21,490 46	.....	Rent, travel, stationery, &c.
45	7	N. Moses	do	6,217 14	.....	Commission, travel, &c.
47	9	G. F. Sawyer	Purser	591 90	.....	Stationery, pilotage, &c.
49	9	A. A. Nicholson	Quartermaster marine corps	.....	\$5,256 23	Officers' quarters, postage, per diem, &c.
50	18	W. L. Riddick	Acting purser	597 42	.....	Pilotage, &c.
55	29	L. Warrington	Purser	13,362 77	.....	Mechanics' pay, &c.
67	16	B. D. Heriot	Navy agent	367 59	.....	Travel, postage, &c.
70	19	E. D. Reynolds	Purser	1,948 25	.....	Stationery, towage, &c.
75	27	A. Day	Navy agent	15,702 50	.....	Commission, rent, &c.
76	28	J. H. Wright	Navy agent	14,270 65	.....	Travel, rent, freight, &c.
78	28	J. Mc. McIntosh	Commander	114 27	.....	Wood, postage, &c.
81	4	J. Wilson	Purser	31,992 98	.....	Rent, wood, freight, &c.
83	7	J. Steuart	Master	73 00	.....	Travelling expenses.
85	11	A. A. Nicholson	Quartermaster marine corps	.....	5,099 10	Officers' quarters, freight, per diem, &c.
93	17	G. Loyall	Navy agent	12,240 07	.....	Rent, freight, commission, &c.
94	19	E. McCall & Co.	Navy agents	4,164 62	.....	Salary, postage, &c.
95	21	A. J. Watson	Purser	11,828 81	.....	Travel, pilotage, and stationery.
98	23	L. Warrington	do	9,520 93	.....	Mechanics' pay, &c.
100	24	E. H. Allen	Consul	1,063 20	.....	Commission, interest, &c.
103	1	Barings Brothers & Co.	Navy agents	11,063 88	.....	Mechanics' pay, postage, &c.
105	3	S. P. Todd	Purser	31,260 28	.....	Officers' quarters, freight, &c.
117	21	A. A. Nicholson	Quartermaster marine corps	.....	5,105 40	Travel, stationery, &c.
118	22	B. J. Cahoon	Purser	335 57	.....	

120	25	J. B. Rittenhouse.....	do.....	255 66	Travel and stationery.
122	27	T. M. Taylor.....	do.....	862 07	Do do.
125	2	J. C. Carter.....	Acting purser.....	678 91	Do do.
126	4	S. P. Todd.....	Purser.....	6, 350 91	Mechanics' pay, postage, &c.
130	9	C. J. Sweet.....	Acting purser.....	234 54	Postage, travel, &c.
131	9	F. Chatard.....	do.....	952 75	Do.
132	9	A. G. Allen.....	Navy agent.....	31, 828 26	Commissions, clerk-hire, &c.
137	13	W. Anderson.....	do.....	7, 786 55	Do do.
139	14	J. Johnson.....	Purser.....	1, 138 98	Pilotage, stationery, &c.
141	15	W. Sloanaker.....	Navy agent.....	193 86	Freight, postage, &c.
143	17	C. Swackhamer.....	do.....	19, 096 51	Clerk-hire, commissions, &c.
164	21	J. H. Aulick.....	Captain.....	1, 415 90	Travelling expenses.
168	3	J. H. Wright.....	Navy agent.....	12, 637 89	Commissions, freight, travel, &c.
179	6	W. B. Fitzgerald.....	Midshipman.....	23 00	Travel.
180	6	J. B. Rittenhouse.....	Purser.....	420 00	Stationery, postage, &c.
183	7	J. Tatnal, jr.....	do.....	780 28	Do do.
185	8	A. Day.....	Navy agent.....	12, 039 27	Travel, rent, freight, &c.
188	10	C. S. McCauley.....	Captain.....	552 50	Travel.
193	13	B. J. Cahoon.....	Purser.....	97 53	Postage, stationery, &c.
198	19	S. Ramsey.....	do.....	889 89	Do do.
201	22	do.....	do.....	7, 615 97	Mechanics' pay, &c.
204	26	S. Forrest.....	do.....	14, 663 31	Do.
210	2	L. Warrington.....	do.....	4, 643 51	Do.
212	5	W. Anderson.....	Navy agent.....	9, 998 90	Freight, advertising, rent, &c.
215	5	W. H. Robertson.....	Consul.....	156 82	Towage.
216	5	G. Loyall.....	Navy agent.....	10, 343 47	Advertising, travel, rent, &c.
218	6	A. Miles.....	Passed assistant surgeon.....	609 00	Travel.
223	12	A. B. Fairfax.....	Acting purser.....	194 91	Travel and postage.
225	15	H. M. Hieskell.....	Purser.....	8, 967 76	Mechanics' pay, &c.
226	16	J. O. Bradford.....	do.....	13, 420 44	Do.
228	17	J. H. Briscoe.....	Navy agent.....	6, 363 40	Rent, stationery, freight, &c.
233	31	B. D. Heriot.....	do.....	388 40	Do do.
234	31	J. D. Gibson.....	Purser.....	2, 087 00	Pilotage, stationery, &c.
237	1	N. Moses.....	Navy agent.....	6, 756 30	Commissions, rent, freight, &c.
238	2	C. Swackhamer.....	do.....	21, 628 91	Do do.
243	9	J. M. Watson.....	Acting purser.....	472 35	Pilotage, stationery, &c.
248	12	S. Ramsey.....	Purser.....	3, 868 69	Mechanics' pay, &c.
249	12	J. H. Lathrop.....	Navy agent.....	14, 879 66	Commissions, freight, &c.
250	13	S. Forrest.....	Purser.....	6, 370 25	Mechanics' pay, &c.

Mar.

April

May

June

No. 15—Continued.

No. of report.	Date.	Names.	Rank.	Contingent expenses.	Contingent marine corps.	Purposes.
252	June 13	J. D. Gibson.....	Purser.....	\$457 75	.....	Stationery, travel, &c.
253	14	L. Warrington.....	do.....	5,219 13	.....	Mechanics' pay, &c.
254	14	A. Day.....	Navy agent.....	5,110 87	.....	Rent, freight, clerk-hire, &c.
255	16	J. H. Wright.....	do.....	5,609 00	.....	Do do.
256	21	T. P. McBlair.....	Purser.....	6,098 41	.....	Pilotage, stationery, furniture, &c.
259	24	G. Loyall.....	Navy agent.....	4,190 61	.....	Freight, commissions, &c.
261	27	B. J. Cahoon.....	Purser.....	75 56	.....	Travel and postage.
				579,306 89	\$20,109 25	

A. O. DAYTON.

TREASURY DEPARTMENT, Fourth Auditor's Office, December 1, 1854.

REPORT OF THE POSTMASTER GENERAL.

POST OFFICE DEPARTMENT,

December 4, 1854.

SIR: The whole number of post offices in the United States on the 30th of June, 1854, was 23,548. Of this number 257 are offices the annual commissions from which amount to one thousand dollars or upwards, and the appointments at these offices are therefore made by the President, by and with the advice and consent of the Senate, agreeably to the provisions of the act of 1836. The number of offices established during the last fiscal year was 1842, and the number discontinued 614; showing a net increase in one year of 1228. The number of which the sites and names have been changed in the course of the year was 499. The number of postmasters appointed during the year was 8618. Of these, 4185 were appointed to fill vacancies occasioned by resignations, 1977 by removals, 320 by deaths, 294 by change of names and sites, and 1842 on establishment of new offices. The total number of offices on the 1st of December, 1854, was 23925.

On the 30th June last, there were in operation 6697 mail routes. The number of contractors was 5167. The length of these routes is estimated at 219,935 miles.

The total annual transportation of mails was 63,387,005 miles, costing \$4,630,676, and divided as follows, viz:

21,267,603 miles by modes not specified, at \$1,092,833, about 5 cents per mile.

20,890,530 miles by coach, at \$1,290,095, about 6 cents per mile.

15,433,389 miles by railroad, at \$1,758,610, about 11 cents 4 mills per mile.

5,795,483 miles by steamboat, at \$489,138, about 8 cents 4 mills per mile.

Compared with the services of the 30th June, 1853, there is an increase of 1,494,463 miles of transportation, or about $2\frac{1}{2}$ per cent., and of \$134,708 cost, being about 3 per cent.

The increase of railroad service is 2,446,684 miles, and the expense \$157,281; being 19 per cent. in transportation, and not quite 1 per cent. in cost.

The increased transportation by modes not specified is 377,157 miles, or about 1 per cent., at a cost of \$37,520, or 3.55 per cent. The transportation by coaches is less by 439,796 miles, or about 2 per cent., though at an increased cost of \$83,137, or 6.88 per cent. The unprecedented extension of railroads superseded much coach service. The increased cost for a diminished amount of such service may be accounted for from the fact that the new contracts in New England and New York, commencing 1st July, 1853, were made at largely enhanced rates, increasing the aggregate expense, while the amount of service was largely reduced.

Steamboat transportation during the past year was reduced 889,582 miles, or 15 $\frac{3}{8}$ per cent., at a reduced cost of \$143,230, or 29.7 per cent. This is accounted for by the discontinuance of service between Wilmington, N. C., and Charleston, S. C., Savannah, Ga., and Charleston, and Detroit and Buffalo, and the suspension of service on the Arkansas and White rivers, owing to the failure of the contractors. Several steamboat routes were also dispensed with at the lettings of new contracts for New England and New York.

The portions of service in the foregoing estimates chargeable to California, are 591,630 miles of annual transportation, costing \$142,933, and varying but slightly from last year's report.

Steamboat transportation 159,120 miles, at \$21,000.

Coach transportation 174,026 miles, at \$35,185.

Modes not specified 258,484 miles, at \$86,748.

In Oregon the service is as follows:

Steamboat 38,038 miles, at \$17,000.

Modes not specified 98,988 miles, at \$28,151.

Total transportation, 137,026 miles. Total cost, \$45,151.

The annual transportation by steamboat was increased 10,760 miles during the year, without additional pay.

The following table exhibits the extension of railroad service during the year, separately, in five groups of States.

	Length of route.	Miles of annual transportation.	Additional cost.
New England and New York.....	629	971,341	\$29,488
New Jersey, Pennsylvania, Delaware, Maryland, and Ohio.....	342	453,660	15,518
Virginia, North Carolina, South Carolina, Georgia, and Florida.....	328	235,227	56,863
Michigan, Indiana, Illinois, and Wisconsin.....	605	710,952	44,214
Kentucky, Tennessee, Alabama, Mississippi, and Louisiana.....	121	75,504	11,234

The lettings for the year embraced the States of Alabama, Mississippi, Louisiana, Arkansas, Texas, Missouri, Kentucky, Tennessee, Iowa, Wisconsin, Michigan, Indiana, Illinois, California, and the Territories of Oregon, New Mexico, Utah, Washington, and Minnesota.

In some of the States and Territories I found the mail facilities greatly deficient, and not at all such as the wants and requirements of the people absolutely demanded. After a careful survey of each State and Territory, I gave to it such additional facilities as its increasing trade and population seemed to require.

A comparison of the service under the new contracts, commencing 1st July last, as in operation on 30th September, with that under the expired contracts in the northwestern and southwestern sections of the Union, shows that the annual transportation of mails has been increased 2,990,860 miles, at an increased cost of \$395,373 per annum, divided among the several States and Territories as follows:

	Increased miles of annual trans- portation.	Increased an- nual cost.
Michigan	146,342	\$2,189
Indiana	240,255	60,425
Illinois	266,618	67,956
Wisconsin	75,537	32,320
Iowa	180,156	39,625
Missouri	23,820	11,635
Minnesota	62,960	2,002
Kentucky	269,258	-----
Tennessee	-----	16,285
Alabama	-----	19,764
Mississippi	577,318	49,214
Arkansas	477,156	46,688
Louisiana	358,904	41,138
Texas	469,148	67,154
California	68,302	-----
Utah	25,960	12,203

In Alabama the transportation has been slightly decreased, though the total cost of service is increased \$19,764.

In New Mexico the same amount of transportation continues as under the former contracts, but at a reduced cost of \$10,700.

In California 68,302 miles of additional transportation is obtained at a reduced annual cost of \$41,804, according to the accepted bids; but, owing to the failure of the bidders on two important routes, it is expected that the actual cost of the service will be largely increased.

The service in Oregon has been reduced by not renewing the contracts on the routes from Columbia to Cascades, Cascades to Wascapum, and Wascapum to Salt Lake.

In Kentucky 269,258 miles of additional service were obtained at less pay than under the former contracts.

Of the 2,990,860 miles of transportation above stated, 1,292,650 miles are performed by railroad. Of the additional cost of \$395,373, \$106,951 is for railroad service. The total annual transportation under the new contracts, as adjusted for the quarter ending 30th September, is 29,047,050 miles, and the total annual cost \$2,375,789, divided as follows, viz:

3,576,966 miles by railroad, at \$343,118, or 9 cents 6 mills per mile.
 4,159,864 miles by steamboat, at \$436,768, or 10½ cents per mile.
 6,674,072 miles by coach, at \$646,068, or 9 cents 6 mills per mile.
 14,636,148 miles by modes not specified, at \$949,835, or 6½ cts. per mile.

Contracts have been made to convey mails by steamboat between New Orleans, St. Francisville, and Vicksburg, at \$75,000 per annum; and between Mobile and Montgomery, Alabama, at \$35,000 per annum, which are not included in the foregoing statements. The amount of pay for service as in operation on 30th September, between New Orleans and St. Francisville, by transient boats, is \$33,680. It is proper, therefore, to add for the new regular service \$41,320, which, with the \$35,000 on the Alabama river route, will increase the cost of the ser-

vice for the current year \$76,320; making the whole additional cost of the new contracts \$471,693. To these must also be added the cost of additional route agents, local agents, and mail-messengers, appointed since 1st July, amounting to \$7,988.

There were in service on the 30th June last 236 route agents, at a compensation of \$181,600 per annum; 21 local agents, at \$15,490 per annum; and 968 mail-messengers, at \$92,131 80 per annum—making a total cost of \$289,221 80 per annum to be added to the other cost of transportation, stated above at \$4,630,676.

Pursuant to the act of Congress of 5th August, 1854, I invited proposals, on the 31st August, for conveying mails from Cairo, Illinois, to New Orleans, and back, daily, in steamboats. Only one bid was received within the prescribed time, (6th November;) and that being for \$300,000, I did not feel myself at liberty to accept it. A second bid, at a much more reasonable rate, was received after the regular time had expired. There are now no great mail lines in operation, with which to connect the proposed one at Cairo. The time is, however, not distant when the necessary connexions will be effected by the completion of the Illinois Central railroad to Cairo, and of the Ohio and Mississippi road to its point of intersection from the east with the Illinois Central. I am informed that by the 1st of January the Illinois Central will be completed, and that by the 1st of July the Ohio and Mississippi road will make its eastern connexion with that road. The chain of railroads between the Atlantic at various points and the Mississippi river, thus completed, will attract large and important mails which are now conveyed on other routes, and most materially enhance the importance of a steamboat route between Cairo and New Orleans. Moreover, it is reasonable to anticipate such an increase of trade and travel in the same direction as will go very far towards sustaining a line of boats, thus reducing the cost of mail service. At present the principal, if not the only, support of the line would be from this department; and I have therefore deemed it my duty not to enter into a contract now, but await developments so soon to be expected, enabling me to negotiate terms much more advantageous both to the public and this department. In the mean time mails are regularly conveyed, as heretofore, by the trip, between Louisville and New Orleans, and St. Louis and New Orleans. I have also contracted for separate service between New Orleans and Vicksburg, Vicksburg and Napoleon, and Napoleon and Memphis.

There were in operation on the 30th September last 239 railroad routes. Their aggregate length was 16,621½ miles, and the cost of mail transportation thereon was \$1,923,747 89.

Add to this the sums paid mail messengers, route and local agents, and the whole cost of the service will be \$2,196,249 89.

In adjusting the rate per mile to be paid these railroads, great difficulties continue to exist. The principle which should regulate their pay seems to be agreed upon. The companies allege that the government should not ask or expect them to perform for it any service at a less rate than that paid by individuals for similar services. This principle has never been denied or disputed by the Post Office Department; but, on the contrary, it has always maintained—and this has been ever the

great cause of difficulty between the department and the companies—that the government has been charged and paying much greater prices than those paid by individuals. Whether this be so or not, is a matter that could be easily settled by computation. And when the Post Office Committee of the House of Representatives, at its last session, proposed a bill fixing certain rates per mile for mail transportation on the roads, if it could have been shown to them that the rates thus fixed were too low, considering the weight of the mail, its importance, and the facilities and space given for its transportation, I am satisfied they would have at once increased the rates. What is required is to fix fair and just prices—companies performing similar services to receive the same pay, which is not now the case, and all of them to be paid according to the bulk of the mails, the speed with which they are conveyed, and the accommodations required. The sums paid by express companies would be a very unfair criterion by which to regulate the charges to be paid for the conveyance of the mails. Controlled by no competition, excepting such as it is in the power of the railroad companies themselves to prevent, they can pay any prices which may be demanded of them, and assess it upon their customers. It would be unjust, too, to found a calculation upon the assumption that the mail-car was twenty-five feet in length—fifteen for a mail room and ten for a post office—and then to estimate and charge both for weight of car and mails at fourteen tons. Accommodations such as these are required, both for the security of the mails and to enable route agents properly to discharge their duties; and to this fact I early drew the attention of the companies, but these accommodations have not been given. Many of the railroads, desirous of properly serving the public, devote a car exclusively for mail purposes; but in the great majority of cases, a car is divided between the government and the express companies, or a space is apportioned off for the route agent, the mail being placed with the baggage in one end, and the balance of the car appropriated for a smoking-room.

The calculations which I have made, and those which some of the companies make, differ most widely, and show that they are receiving for the mail much more than for first class freight; but the question, whether the calculations of the department or the companies be correct, could be readily settled by a committee of Congress; and if the companies wish government to pay them only such prices as they receive for individuals, the whole matter is one of easy solution. In the opinion that this government is paying much more for railroad mail service than it is worth, I have been confirmed by the prices paid for similar services in England, France, Germany, and Canada.

With the Great Western Railroad Company, in the latter country, the department, in March last, entered into a contract to carry the United States mail from Suspension Bridge, New York, to Detroit, Michigan, for the sum of thirty dollars a mile. The same cars carry the local Canada mail; and if the Canadian government allow this company thirty dollars a mile, in addition to the sum received from this department, this important trunk road will be receiving sixty dollars a mile.

It is of very great importance that kind relations should always exist between the Post Office Department and the different railroad compa-

nies, because, when such is the case, the public interests are always better served. It has been, and will ever be, my effort to preserve these relations. Exorbitant demands for services, however, will always be refused; and when a schedule is arranged, not by the department alone, because it has no such power, but by the joint concurrence of the department and the company, who always have regard to the local business of the road, the public officer would be derelict in his duty who would not exact a conformity thereto. Unless such were the case, there would be no order or regularity in the mail system, and business in its thousand ramifications would be seriously disturbed. When a fine is laid, if afterwards good cause be shown, it is always remitted; but it is not asserting too much to say, that every delay of the mail causes embarrassment, if not injury, to hundreds, and therefore every excuse should be carefully examined. The merchant, manufacturer and farmer rely upon the mail principally for their remittances; all classes of our citizens anxiously await the arrival of their letters and newspapers; and if, through the inattention or neglect of the railroad companies, or their agents, delays take place, what good reason can be assigned why they should not be treated as other contractors?

By the act of 2d July, 1836, it is provided that contracts shall, in all cases, be awarded to the lowest bidder. In order to guard the department against fraud and imposition, the form of a bid is prescribed by the regulations. A guarantee is likewise provided for in the act, by which two responsible persons undertake, that if the party bidding be accepted, he shall enter into the contract for the service proposed, with good and sufficient securities. A certificate is then required to be signed by a postmaster, judge, or clerk of record, who certifies to the sufficiency of the guarantors. Notwithstanding these precautions, irresponsible men frequently become bidders having no design of performing the service, but with the sole object of selling out their bid. Failing to find a purchaser, they refuse to enter into the contract; and when inquiry is made into the sufficiency of the guarantors, in order to institute an action against them, it is discovered that they are pecuniarily worthless. On failures of this description, the contract is awarded to the next lowest bidder; but as he is not bound by his bid after the acceptance of the lowest bidder, it very frequently happens that he declines its acceptance, and the department is thus obliged to pay much more for the service than it could have been had for, or than it is really worth. Such instances occurred frequently at the last lettings, which have increased very much the cost of the service. Some discretion should be lodged in the Postmaster General to prevent such frauds; but, in its absence, I have determined, at the next lettings to designate certain postmasters in each State in which a letting is to be had, who alone will be authorized to give the required certificate.

The proper distribution of mail matter in a country so vast as ours, with so many mail routes, and so many post offices, is a subject attended with great difficulty, and to which the attention of my predecessors has frequently been directed. Letters, instead of having one, or at most two distributions, have been distributed four or five times before their arrival at the destined point. The consequence has been

that the distribution and delivery commissions have almost consumed the postage; but the worst evil arising from this practice has been, that great delays have been occasioned, which have always been the subject of just complaint.

To distribute mail matter properly, requires a minute knowledge of mail arrangements, and this the department alone can have. If the postmasters at the various distributing post offices were permitted to make their own distribution schemes, with their necessarily imperfect knowledge, great mistakes must occur; and instead of a letter being mailed direct to the distributing office to which it belongs, it would be mailed from point to point along the route until it reached its destined point. To prevent these delays, and at the same time to possess myself of the local knowledge of the postmasters at the distributing post offices, I caused to be forwarded to me the different schemes of distribution. Some of them I found quite perfect, but the great majority of them were very defective, and my only surprise has been that greater delays in the delivery of letters have not taken place. I am now having prepared distribution schemes for every distributing office in the country, allotting to each its proper distribution. When they are completed, the postmaster at the mailing point can, by turning to his scheme and looking to the counties and towns in each State allotted to the various distributing offices, be enabled to mail direct.

The department will likewise have the important matter of distribution under its exclusive control; and when new mail arrangements are made by railroad or otherwise, which would change the course of distribution, the different offices can be instructed accordingly. Much, however, remains to be done. Every distribution causes delay; and this must necessarily take place, under our present system, once or twice, which is one great cause of the complaint that letters do not reach their point of destination as soon as passengers. When the letter is from one distributing office to another, the mailing is direct, and if sent on its proper course, there is no good reason for any delay. The mailing, indeed, should be direct from every post office in the United States to another; but this, under our present system, I view as impracticable. With our existing regulations, which prescribe that every postmaster shall mail direct to the place addressed all letters for his own State or Territory, and all letters for post offices in other States or Territories which should not pass through a distributing office on their proper route to the office of delivery, rigorously enforced, and the new schemes of distribution in operation at the various distributing offices, I trust to be able to give to our mails greater speed and regularity.

The Auditor reports the expenditures of the department, for the last fiscal year, at \$8,577,424 12, for the following objects, viz :

Compensation to postmasters.....	\$1,707,708 29
Extra compensation to postmasters by the act of March 3, 1851	34,799 97
Ship, steamboat, and way letters.....	19,549 67
Transportation of the mails, including the mails to Bremen, Havre, and Havana, and the mails across the Isthmus of Panama.....	5,401,382 50

Wrapping paper.....	\$40,463 66
Office furniture, (for post offices).....	5,929 36
Advertising.....	103,863 57
Mail bags.....	48,861 57
Blanks.....	78,176 81
Mail locks, keys, and stamps.....	10,070 77
Mail depredations and special agents.....	48,769 51
Clerks for offices (of postmasters).....	631,138 26
Official letters received by postmasters.....	447 32
Postage stamps.....	13,664 57
Stamped envelopes.....	47,418 77
Postage stamps of old issue redeemed.....	51 65
Payments to letter carriers.....	135,968 52
Compilation of post routes.....	1,000 00
Miscellaneous payments.....	153,617 96
Payments for British mails.....	94,541 39
	8,577,424 12

The gross revenue of the last fiscal year, including foreign postages and the annual appropriations from the treasury, granted by the acts of 3d March, 1847, and 3d March, 1851, in compensation of mail services rendered to the government, amounted to \$6,955,586 22, viz :

Letter postage.....	\$3,277,110 50
Postage stamps sold.....	2,146,476 02
Newspapers and pamphlets.....	606,148 18
Fines, (other than from contractors).....	17 50
Emolument accounts of postmasters.....	81,952 46
Letter-carriers.....	135,968 52
Recovered from failing contractors.....	400 00
Dead-letter money unclaimed.....	4,346 11
Miscellaneous receipts.....	3,166 93
	6,255,586 22
Annual appropriations above stated.....	700,000 00
	6,955,586 22

The revenue, as above stated, includes the balance against the department of \$138,565 61, resulting from our postal account with Great Britain, Prussia, and Bremen, for the last fiscal year.

The expenditures of the department for the past year, including payments for foreign postages, were, as already stated.....

The revenue of the year, including foreign postages and the appropriation for free matter, amounted to.....

Deficiency.....

1,621,837 90

To the deficiency above stated should be added the balances due and unpaid to the London and Bremen offices up to the 1st July last, less the balances due by the Prussian office up to the same period, viz:

Balances due the London office from April 1, 1853, to June 30, 1854.....	\$230,259 07	
Balances due and unpaid to the Bremen office to the same period.....	13,465 40	
	<u>243,724 47</u>	
Less balances due from the Prussian office 1st January, 1853, to June 30, 1854..	110,241 14	
	<u>\$133,483 33</u>	
Total deficiency for 1854.....		<u>1,755,321 23</u>
The deficiency for the year ending June 30, 1853, as stated in my report of last year, was.....	\$2,117,078 20	
In the year 1854 the deficiency, as above stated, was..	1,755,321 23	
		<u>361,756 97</u>

One of the results of the great activity and expansion which has prevailed in the general business operations of the country during the past year, is manifest in an extraordinary increase of the post office revenue; and that it may be seen in which branch this increase has mainly arisen, the revenue of the past and preceding year is here presented in a comparative statement, from which the foreign postages are excluded:

	Revenue of 1853.	Revenue of 1854.
Letter postage	\$2,843,965 42	\$3,277,110 50
Stamps sold.....	1,629,262 12	2,146,476 02
Newspapers and pamphlets	611,333 42	606,148 18
Emolument account of postmasters.....	38,386 01	81,952 46
Received from letter-carriers.....	113,017 73	135,968 52
Miscellaneous receipts.....	4,760 00	7,930 54
Annual appropriation for free matter.....	700,000 00	700,000 00
	<u>5,940,724 70</u>	<u>6,955,586 22</u>
Deduct the balance in each year resulting from our postal accounts with England, Prussia, and Bremen.	94,466 27	138,928 31
	<u>5,846,258 43</u>	<u>6,816,657 91</u>
		5,846,258 43
Total increase of 1854.....		970,399 48 or 18.85 per cent.

If from the letter postage and stamps sold in each year the foreign balances be deducted, there will appear an increase, over 1853, of 20.67 per cent., while the revenue from newspapers and pamphlets in 1854 seems to have fallen off nearly one per cent.

But the general account of "stamps sold" is necessarily so kept as to embrace not only the letter postage stamps and stamped envelopes, but also the one-cent blue stamps, which are generally used to pre-pay transient newspapers, printed circulars, and dropped letters, and occasionally upon domestic and foreign correspondence. Therefore, to arrive at a proper estimate of the revenue from printed matter, it is necessary to accord to it its due proportion of the stamps sold. If we admit 75 per cent. of the average amount of the blue stamps sold in the last three years to belong to the revenue from printed matter, then the condition of the revenue derived from that branch in the last four years will be shown by the following statement:

	Year ending June 30, 1851.	Year ending June 30, 1852.	Year ending June 30, 1853.	Year ending June 30, 1854.
Revenue, as stated by the Auditor.	\$1, 035, 130 89	\$789, 246 36	\$611 333 42	\$606, 148 18
Three-fourths of blue stamps sold.	None issued this year.	38, 081 64	32, 858 17	53, 950 61
	1, 035, 130 89	827, 328 00	644, 291 59	660, 098 79

As the act of 30th August, 1852, fixing the present rates of postage on printed matter, took effect on the 1st of October following, a fair comparison can only be instituted between the revenue of the last two fiscal years, through the whole of which the existing rates of postage prevailed. This shows that after giving to each year the liberal allowance of three-fourths of the one-cent stamps sold, the year ending June 30th, 1854, exceeds the previous year only 2.45 per cent. In this act there is a clause which provides that "when the postage on any newspaper or periodical is paid quarterly or yearly in 'advance,' one-half only of the regular rates shall be charged."

In view of the trivial increase of the postage on printed matter and of the extremely low rates, particularly for newspapers and periodicals, I would recommend that the law be so far changed as to omit the clause referred to, leaving the department to fall back upon the act of 1825, under which quarterly payments in advance on newspapers and periodicals have heretofore always been required. The propriety of this recommendation will be apparent not only for the reasons above suggested, but also from the following comparative statement of facts.

Under the act in operation prior and up to July 1, 1851, the postage, for instance, on a weekly newspaper, when sent not over one hundred miles, or any distance in the State where published, was thirteen cents, and when sent over one hundred miles, or out of the State where published, nineteen and a half cents a quarter. By the act of 3d March, 1851, six different rates, according to distance, were established. Thus on a weekly newspaper, for any distance not exceeding fifty miles, five cents a quarter; over fifty, and not exceeding three hundred miles, ten cents; over three hundred, and not exceeding one thousand miles, fifteen cents; over one and not exceeding two thousand miles, twenty cents; over two and not exceeding four thou-

sand miles, twenty-five cents; over four thousand miles, thirty cents a quarter; and weekly newspapers to subscribers in the county where published were made free. By this act, the postage, it will be perceived, for any distance not over one thousand miles, was greatly reduced; but owing to the diversity of rates, the too great reduction for the shorter, and too great increase for the longer distances, its modification was at once called for, and this resulted in the present law, by which the quarterly rate on any weekly newspaper or periodical, not exceeding three ounces in weight, sent any distance in the United States, is only six and a half cents. On newspapers not exceeding one and a half ounces in weight, when circulated in the State where published, the quarterly rate is still one-half less, being only three and a quarter cents; and weekly newspapers to subscribers in the county where published go free. I cannot avoid the conviction that, had it been clearly understood that the act of 1825 required pre-payment quarterly in advance on regular newspapers to subscribers, and that the effect of the clause in question would be to reduce the postage on the great bulk of printed matter, to rates so exceedingly low, Congress would never have given its sanction to the measure. If my recommendation be adopted, the quarterly postage, for instance, on a weekly newspaper or periodical not exceeding one and a half ounces in weight, circulated in the State where published, (and in the same proportion for more frequent publications) will be six and a half cents; and when not over three ounces in weight, sent to any part of the United States, thirteen cents a quarter. The newspapers to subscribers living in the county where published will continue to go free.

The expenditures of the current year ending June 30, 1855, owing to causes not within the control of the department, will greatly exceed those of the past year. In my report of 1st December last, I had the honor to state that the commissions allowed to postmasters by the sixth section of the act to establish certain post roads, &c., approved 3d March, 1853, had proved insufficient at several of the distributing offices to defray the expenses necessary to their efficient administration; and to remedy a state of things so injurious to the service, I then recommended the restoration to the Postmaster General of the discretion given him by the sixth section of the "act to reduce and modify the rates of postage," approved March 3, 1851, so that he might have it in his power to allow to the postmasters at such distributing offices the means necessary to defray expenses. At the same time I took occasion to say, that while the power should be given to meet the exigencies of a particular class of cases, not exceeding twenty in number, there were abundant reasons why a larger share of the postages should not be diverted from the general purposes of the department. Upon representations subsequently made, it was deemed expedient to ask an enlargement of the power above mentioned, so far only as to embrace a few separating offices situated at points exacting great labor and affording but a nominal compensation to the incumbents.

Careful estimates were made by the Auditor of the increase of expense necessary to relieve the few distributing and separating offices which might, upon investigation, appear to be justly entitled to aid from the department, and the conclusion was, that the whole amount could

not exceed \$45,000 per annum. This sum would certainly have been sufficient to cover all proper demands for additional aid. But the views of the department did not prevail, and Congress passed the act of June 22, 1854, fixing an increased scale of commissions, and raising the aggregate compensation of all the postmasters in the United States not less than \$300,000 per annum, thereby increasing the expenditures of the department to that amount, instead of \$45,000, as had been recommended. The expenditures of the current year for "compensation to postmasters," "clerks for offices," &c., will be further increased by the operation of the fourth and fifth sections of the act of 27th July, 1854, making provision for the postal service in the State of California and the Territories of Oregon and Washington. By the fifth section of the act, the Postmaster General is authorized and directed to allow, in the settlement of the accounts of postmasters in California and Oregon originating previous to the 30th June, 1853, "all just and reasonable expenses incurred by them in and about the business of their respective offices, and the discharge of their official duties: *Provided*, That no allowance shall be made whereby the United States shall be charged with any indebtedness whatsoever." The balances due from late and present postmasters in California and the Territories of Oregon and Washington, subject to the operation of the fourth and fifth sections of the act just mentioned, amounted, on the 30th June, 1854, to \$164,144 41; of which sum, it is estimated that not less than \$50,000 must be cancelled under the provisions of the fifth section, and carried into the general accounts of the department as expenditures of the current year. In addition to the burdens thrown upon the revenue of the department by the general increase of the compensation of postmasters, and the special legislation for those in California, Oregon, and Washington Territories, the cost of transporting the mails will be greatly increased in the present year by putting new post routes in operation, by the enhanced prices demanded in the very large section let to contract from the 1st July last, and by important improvements in the grades of service generally. While I shall take care that the expenditures of the department are not unnecessarily increased, and that it shall draw from the general treasury only as much as its absolute wants require—which I fear it must necessarily do for some years under the present rates of postage—it would be neither wise nor expedient to deprive or keep from our people the mail facilities which they require. The principle adopted in the infancy of our republic, that the Post Office Department should sustain itself from its own revenues, was, in my opinion, most wise and salutary.

A postage was then laid sufficient to meet the wants of the service, and under this system each citizen paid the expenses of the transportation of his own letters, and others were not taxed for his benefit, as they must be when sums have to be drawn from the general treasury to meet deficiencies in the post office revenues.

Having thus briefly adverted to some of the causes of increase in the expenditures in the current year, I proceed to show what those expenditures will probably be, and what means the department will have to meet them.

It is estimated that the expenditures for the year 1855, exclusive of

payments for foreign postages accruing within the year, will be about \$9,841,921 33, viz:

The rate of cost of transportation, including foreign mails, on the 30th of June, 1854, was..... \$5,517,312 00

To the cost of transportation in 1854, add the increase in the current year which will be occasioned by the enhanced prices of the new contracts commenced 1st July last, in the Northwestern, Western, and Southwestern States and Territories, including California and Oregon, for the extension and improvement of the service therein, and by improvements in other sections, about..... 650,000 00

Total for transportation in 1855..... 6,167,312 00

For compensation to postmasters, clerks for offices, ship, steamboat and way letters, wrapping paper, advertising, office furniture, mail bags, blanks, mail locks, keys and stamps, mail depredations and special agents, postage stamps and stamped envelopes, letter-carriers, and miscellaneous payments..... 3,541,126 00

For balances due to foreign countries up to June 30, 1854, which will be paid in 1855,..... 133,483 33

9,841,921 33

The means for the year 1855 will probably amount to \$9,989,944 90.

The balance stated by the Auditor as at the credit of the revenue account on the 30th June last, was.... \$740,078 63

From the above balance the following deductions should be made, viz:

Doubtful and unavailable balances due by late postmasters, originating prior to June 30, 1854..... \$149,438 34
California accounts, estimated at..... 50,000 00
Balances due for foreign postage accounts, prior to June 30, 1854..... 133,483 33

332,921 67

Available for 1855..... 407,156 96

The gross revenue of the year, exclusive of balances resulting from the foreign postage accounts, is estimated at 6,728,324 00

The appropriations for free matter, less \$200,000 drawn in 1854..... 500,000 00

The appropriation to supply deficiencies in the year 1855, made by the act of August 5, 1854..... 2,344,464 00

9,979,944 96

Estimated expenditures of 1855..... 9,841,921 33

Estimated surplus June 30, 1855..... 138,023 63

During the three years which commenced on the 1st July, 1851, and ended on the 30th June, 1854, the department issued 166,126,417 postage stamps, and 25,076,656 stamped envelopes, amounting in the aggregate to \$5,507,022 03; of which \$5,092,301 73 were sold, being about 92½ per cent. of the whole amount issued.

Having ascertained that the mode of examining and checking the quarterly returns of postmasters was radically defective, I took occasion to invite attention to the subject in my report of last year, and I again advert to it because subsequent investigation and experience have convinced me that a thorough check of the accounts, under the present system, is wholly impracticable. Such a check is indispensable to the safety of the revenue, and can in no way be effected so certainly, at so little cost, and with so much advantage to the service, as by adopting pre-payment of postage in all cases not coming within our postal arrangements with foreign countries. This plan, connected with a well-digested system for the registration of letters, to which I shall presently allude, would quicken correspondence, while it would facilitate and expedite the operations of the post offices in mailing and delivering letters, and inspire confidence in the department as a safe means of transmitting letters containing remittances.

Very soon after I entered upon my duties in this department, its large and increasing correspondence in regard to the loss of valuable letters intrusted to the mails, attracted my attention. I found, on examination of the subject, that although Congress, in establishing our postal system, appears to have had principally in contemplation the providing of suitable and convenient means of correspondence, and the diffusion of intelligence, yet from that time until now the mails have been used, to a large and constantly-increasing extent, for the transmission of bank-notes and other valuable enclosures, and are now the principal means through which the remittances of the country are made, while neither the laws nor any regulations of this department have provided any additional guards for their security against loss or depredation beyond those originally established.

In view of the enormous sums which are constantly passing through the mails, the losses by depredation are inconsiderable. Still such losses are numerous. Their aggregate amount is large, and they are increasing with the growth of our country and the extension of its mail service. Under these circumstances I have thought it proper to recommend such legislation on this subject as may enable this department to give greater security to valuable letters in the mails, without assuming any liability for their ultimate loss. By our present system, all letters mailed at a given date at one post office, for delivery or distribution at another, are entered *in gross*, according to their several rates of postage, upon one post-bill. If a letter of great value be embraced in the bill, neither its address nor any other description of it is entered on the post-bill, by which it can be distinguished from other letters of the same grade or rate of postage. Nor is the address or description of any such letter entered on the postmaster's account of mails sent, nor indeed upon any other record kept in the office from which it is sent. The only

account kept by the postmaster is a *money account*, made up each day of the several aggregates of postages of the different rates, either collected or charged as unpaid.

It will be seen that, under such a system of accounts, a missing letter can never be traced with certainty, for the account neither furnishes evidence that a particular letter ever reached the place of its destination, nor even that it left the office of mailing. Believing that this imperfection in our system can only be remedied by the adoption of a general and uniform plan of registration for all valuable letters, I have, after consulting the experience of other countries on the subject, devised a plan of registration which I think suited to our circumstances, and likely to add greatly to the security of the mails against depredation. It provides that receipts shall be given for valuable letters when posted, and that duplicates of these receipts shall be kept for reference at the office of mailing; that the full address of such letters shall be entered on a separate post-bill, which shall be copied at large upon an account to be kept of registered letters sent. This post-bill is to be forwarded in a sealed envelope, separate from the package of letters to which it relates, and its receipt at the office of its destination is to be acknowledged by a duplicate thereof returned to the office of mailing, marked correct or otherwise, as it may be found on comparison. It provides that, at the large offices, valuable letters shall be received at one window only, and that the receiving clerk shall check them to the register clerk, and he to the mailing clerk. It is, in short, designed to fix responsibility, and to furnish means which do not now exist for tracing a missing letter from the point of its reception to that of its disappearance. To carry this plan into effect, it will be required that new and expensive blanks be prepared and distributed, and that an increased clerical force be employed in the principal post offices. I have not, therefore, felt at liberty to adopt it without the sanction of Congress, and authority to establish such additional rate of postage on this class of letters as may be deemed adequate to the expense of registration.

In Great Britain the "registration fee" on inland and most foreign letters is sixpence sterling (about twelve cents,) in addition to the ordinary rates of postage; and it is expressly provided that "such registration shall not render the Postmaster General, or the post office revenue, in any manner liable for the loss of any such post letters, or the contents thereof." It is believed that authority to establish an additional rate of five cents on each letter registered, and to require the postage on all registered letters to be prepaid, would enable the department to carry into effect the plan here submitted without prejudice to its revenues. It is not proposed to make the registering of valuable letters compulsory, nor that the government shall become liable for such letters when lost, but only to enable each person mailing a valuable letter to do so in the ordinary manner, or to add something to its security, by the payment of a small registration fee. I have no doubt that the registration of valuable letters, as proposed, would be highly appreciated as a means of security by the large commercial classes of the community, whose collections and exchanges are made principally through the mails, and who have, from time to time, urged in vain upon this de-

partment the adoption of some such plan for their protection. I believe, too, that such a system of registration would relieve this department from the imputation of numerous losses not properly chargeable upon it; cases in which valuable letters alleged to have been lost through the mails, either never reached any post office, or have been stolen after arriving at the places of their destination.

The cost of the service for the last fiscal year on the several United States mail steamship lines, and across the Isthmus of Panama, is as follows:

New York to Liverpool, Collins line, twenty-six round trips	\$858,000 00
New York <i>via</i> Southampton to Bremen, eleven round trips	183,333 26
New York <i>via</i> Cowes to Havre, eleven round trips	137,500 00
New York and New Orleans to Aspinwall, twenty-four round trips, including same number of trips between New York and New Orleans <i>via</i> Havana	289,000 00
Astoria <i>via</i> San Francisco to Panama, twenty-four round trips	348,250 00
Charleston <i>via</i> Savannah and Key West to Havana, twenty-four round trips	50,000 00
New Orleans to Vera Cruz, twenty-four round trips, omitting Tampico	37,200 00
Aspinwall to Panama	119,727 03
	2,023,010 29

By the act of Congress approved the 3d of March, 1847, the president was authorized to contract for the construction and equipment of four first class sea-going steamships to be attached to the navy of the United States. It was by the second section made the duty of the Secretary of the Navy to accept, on the part of the government of the United States, the proposals of E. K. Collins and his associates for the transportation of the United States mail between New York and Liverpool. The steamships to be employed were to be so constructed as to render them convertible, at the least possible cost, into war steamships of the first class. By the fourth section of the same act it was likewise made the duty of the Secretary of the Navy to contract with A. G. Sloo for the transportation of the mail from New York to New Orleans, twice a month, and back, touching at Charleston if practicable, Savannah, and Havana, and from Havana to Chagres, and back, twice a month. The fifth section authorized him to enter into a contract to carry the mail from Panama to Oregon once a month. The sixth section made it the duty of the Secretary of the Navy to provide, in the contracts authorized by the act, that the Navy Department shall at all times exercise control over said steamships, and at any time have the right to take them for the exclusive use and service of the United States; due provision being made in the contracts for the mode of ascertaining the proper compensation to the contractors therefor.

On the first of March, 1847, the Secretary of the Navy entered into a contract with E. K. Collins and his associates. The contract contains all the stipulations required by the act of Congress; the service to be performed was twice each month for eight months of the year, and once a month during the other four months. The sum to be paid was three hundred and eighty-five thousand dollars, or nineteen thousand two hundred and fifty dollars a trip; and the contract was to continue in force for ten years from the date of the commencement of the service. A. G. Sloo was contracted with by the Secretary of the Navy on the 20th of April, 1847, to perform the service mentioned in the fourth section. The service was to be twice a month; the sum to be paid, two hundred and ninety thousand dollars; and the contract to continue in force for ten years from the commencement of the service. This contract likewise contains all the stipulations required by the act of Congress, and was assigned by A. G. Sloo to George Law, Marshall O. Roberts, and B. R. McIlvain, on the 3d of September, 1847. The contract to transport the mail from Panama to Oregon was entered into with Arnold Harris on the 16th of November, 1847. The service was to be once a month; the price to be paid was one hundred and ninety-nine thousand dollars; and the contract was to continue for ten years from the 1st of October, 1848. All the stipulations required by the act of Congress are contained in this contract also, which was assigned on the 19th of November, 1847, to William H. Aspinwall.

On the 13th of March, 1851, the Secretary of the Navy and the Postmaster General, in pursuance of a law passed on the 3d of March, 1851, entered into an additional contract with the Pacific Mail Steamship Company, acting by William H. Aspinwall, by which the service from Panama to California and Oregon was increased to twice a month, at an increased price of one hundred and forty-nine thousand two hundred and fifty dollars, making the whole cost of the service three hundred and forty-eight thousand two hundred and fifty dollars. The object of Congress, in the passage of this act, seems to have been to build up a naval steam marine which might temporarily be employed for commercial purposes. In order to enable private individuals to build and equip these steamships in the mode pointed out by Congress, sums of money were advanced to them; and to sustain them until wanted for government purposes, large sums of money were paid them for conveying the mails. If, in the progress of time, it is discovered that these steamships are not suited for naval purposes, or that the large sums paid their owners for mail transportation have created a monopoly, checking the energy and enterprise of others of our citizens, Congress, in my opinion, is called upon to terminate their contracts, if it can so do consistently with plighted faith. By the terms of the act and of the contracts entered into between the Navy Department and these companies, in pursuance of the act, it will be seen that Congress reserved to itself the right to purchase the steamships, and thus terminate the connexion between the companies and the government. When they have been paid for their vessels the sums fixed by the appraisers mutually chosen, everything has been done which the faith of the nation requires.

It is, of course, of great importance to the commercial and other interests of the country that the mails should continue to be carried; but if these contracts are to be considered with reference to the transportation of the mails, the prices paid are too high, and if continued, all competition on the part of private individuals unconnected with the government must cease. High, however, as are the present prices, if the competition on the New York and California line be driven off by the aid of funds derived from the general government, no one can foretell the prices that will have to be paid after the expiration of the present contract. If the present contractors do not wish the government to purchase their steamships, and thus to end the contracts, it will be for them to agree to a reduction of the present prices. Government will then pay a fair remuneration for all the service which it receives, and the carrying and passenger trade between our Atlantic and Pacific coasts will not have become a monopoly. In the bids received under an advertisement issued to obtain information required by the third section of the act of 3d March, 1853, the Nicaragua company proposed to carry a semi-monthly mail between New York and California for a sum not exceeding three hundred thousand dollars, or six hundred thousand dollars for a weekly service, which is now required; and this, in my opinion, is the highest rate of pay which ought to be demanded.

The semi-monthly service, including the sum of \$119,727 03 paid for the Isthmus transportation, will cost this year the sum of \$757,977 03. By the act of July 21, 1852, the number of trips on the Collins line was increased to twenty-six, and the price raised from nineteen thousand two hundred and fifty, to thirty-three thousand dollars a trip, making the yearly cost of this service eight hundred and fifty-eight thousand dollars. The section thus increasing the compensation contains a proviso, reserving the power to Congress to terminate this additional allowance at any time after the thirty-first of December, 1854, upon giving six months' notice. While I shall always take great pleasure in testifying to the faithfulness with which these contractors have performed the service, and in saying that the ships built under the contract reflect great credit upon American skill and enterprise, I cannot resist coming to the conclusion that the sums now paid are too high, and that the notice should be given. Considering the size and cost of these steamships, and the speed with which the mail is carried, the price fixed in the contract may have been too low; but however that may be, the present rates are much too high, and such as ought not to be paid. For the mail service between Liverpool and the United States, the English government pay the Cunard line the sum of one hundred and seventy-three thousand three hundred and forty pounds; which, computing the pound sterling at five dollars, will make the sum of eight hundred and sixty-six thousand seven hundred dollars. For this sum they have weekly service, the seven steamships which constitute the line running alternately between Liverpool and New York, and Liverpool and Boston, and receiving sixteen thousand six hundred and eighty-six dollars a trip. It is true there is a difference in the tonnage of the Collins and Cunard lines, and that the American steamers make their

voyages in a shorter time; but the difference in the tonnage and speed of the two lines does not, in my judgment, afford any valid reason why there should be so marked a disparity in the prices paid by the two governments.

The steamships Humboldt and Franklin, of the New York and Havre line, have both been wrecked during the year. The former was lost in the month of December, 1853, and the latter in July, 1854; in consequence of which, the service on that line has been irregular. Temporary arrangements have been made to supply the places of the lost steamers until suitable steamships can be built to replace them on the line, and such vessels are now in course of construction. Both on this and on the Bremen line, one of the monthly trips has been omitted. These irregularities materially detract from the efficiency of our mail service across the Atlantic.

In September last, the United States Mail Steamship Company having withdrawn their direct steamers between New Orleans and Aspinwall, the mails between New Orleans and the Pacific have since been conveyed, according to the original contract, by the way of Havana. On the Pacific line the company are permitted to omit Monterey and San Diego by their ocean steamers, and thus expedite the through mails, on condition of their supplying those offices, together with Santa Cruz, Santa Barbara, San Luis Obispo, (if practicable) and San Pedro, semi-monthly, by a coastwise steamer from San Francisco, in due connexion with the through route, without change of pay.

No progress has been made since my last annual report in the pending negotiations with Great Britain relative to the admission of France into the arrangement, as contemplated by the provision in the 12th article of our postal convention. This article provides that "the rate of postage to be taken by the British post office upon letters arriving in the United Kingdom from the United States, either by British or United States packets, and to be forwarded through the United Kingdom to colonies or possessions of the United Kingdom, or of the United States, or to foreign countries, and *vice versa*, shall be the same as the rate which is now or which may hereafter be taken by the British post office upon letters to or from such colonies or possessions, or foreign countries, respectively, when posted at the port of arrival, or delivered at the port of departure, of the packets conveying the mails between the United Kingdom and the United States." By this article a similar privilege is secured to Great Britain in respect to letters to and from the United Kingdom, to be forwarded through the United States. But letters and newspapers passing through the United Kingdom "to and from France," are expressly excepted from the stipulations of said article. The two contracting parties, however, agreed "to invite France to enter into communication with them without loss of time, in order to effect such arrangement for the conveyance of letters and newspapers and closed mails through the territories of the United Kingdom, of the United States, and of France, respectively, as may be most conducive to the interest of the three countries."

The clause above referred to, excluding the correspondence between the United States and France from the advantages of the convention, was strongly objected to by Mr. Bancroft, who negotiated the treaty

on our part, and he was induced finally to consent to it only on being assured by the British government that "the treaty stipulations between England and France rendered its insertion necessary, as, without it, the latter power would have just cause of complaint against the former." This representation, however, appears to have been incorrect, as Mr. Lawrence, the successor of Mr. Bancroft, was subsequently assured that "France was then ready to negotiate at once, waiving the privileges of the convention which England set up in her behalf." This government deeming the treaty unequal in its bearing upon the interests of the two countries, particularly on account of the exceptional clause referred to, and being desirous of consummating without loss of time the triple arrangement contemplated by the 12th article, commenced negotiations for that purpose immediately after the treaty was executed, which negotiations have been continued to the present time, nearly six years, without any beneficial result.

The British government has steadily declined to unite in effecting such arrangements as would "be most conducive to the interests of the three countries," which arrangements might have rendered the treaty more equal in its operation; and the original terms of the convention still remain unchanged. The more important parts of the correspondence which has passed between the two governments, on this subject, is contained in Executive document No. 32, published by order of the Senate at the second session of the 32d Congress. On the part of this government, it is claimed that the British transit charge for the United States and French correspondence, if sent in closed mails through the United Kingdom, shall not exceed twelve and a half cents an ounce, that being the price paid by Great Britain for the transit of British closed mails through the United States, to and from the British North American Provinces.

The lowest offer of the British government is that contained in Lord Palmerston's note of the 9th May, 1851, in reply to Mr. Lawrence's communication of the 18th October, preceding, of one shilling (twenty-four cents) an ounce, a sum nearly or quite double that received by the United States for similar service.

Under a partial arrangement concluded between Great Britain and France in May, 1851, the mails from France for the United States have been forwarded through England as *closed* mails, France agreeing to pay to Great Britain the price demanded, viz: a transit postage of one shilling, (twenty-four cents,) and for the Atlantic sea conveyance one shilling eightpence (forty cents) an ounce. Prior to that date, the British office was charging and receiving the sea postage on all correspondence between the United States and France, *via* England, conveyed across the Atlantic by United States steamers, the same as when conveyed by their own packets; the result of which was, that double sea postage having to be paid on all correspondence forwarded by United States packets, the great bulk of the United States and French mails *via* England was sent by the Cunard line.

Since the partial arrangement above referred to went into operation, no charge has been made by Great Britain for the sea postage of letters conveyed by American packets; yet, under its operation, the single rate of postage between the United States and France, by United

States packets, is six cents higher on each letter of the weight of one quarter ounce, and under, than by British packets; and consequently much the larger part of the correspondence is still diverted to the British lines. For instance, taking the weight of the French mails received at New York by the Cunard packets to be the same with that received by these packets at Boston, and reckoning four letters to the ounce, the number of French letters brought by the Cunard line during the year was 237,576, while the number received by the Collins steamers, performing just half as many trips, was only 41,608—less than one-fifth. The present treaty, in other respects, gives an undue advantage to Great Britain, and operates to the serious injury of the United States. Under its provisions, as will be seen by a statement in Appendix A, an excess of at least \$175,000 British postages has, during the last year, been collected by the United States for the British office, over and above the whole amount of United States postages collected by Great Britain. This large balance of British postages has been collected at an actual expense of about \$61,000, in the shape of commissions to our postmasters; and this department suffers also the additional loss, by exchange, &c., necessary to place the money in possession of the British office, in London, of not less than \$3,500. When it is considered that all this outlay is made on our part without receiving any equivalent in return, one of the most striking inequalities of the existing arrangement is pointedly exhibited.

No satisfactory progress has been made, since my last report, toward effecting a postal convention with France; nor has the contemplated arrangement with Belgium been yet consummated. Some steps have been taken with reference to a postal convention with Mexico. A mutual exchange of dead letters has already been agreed upon, and carried into effect; and I now await a project, which Mexico is to propose, for a more perfect arrangement, by which it is expected the rates of postage between the two countries will be materially reduced.

Under our postal convention with Great Britain, the Philadelphia post office, with the concurrence of that government, has been constituted an office of exchange for United States and British mails. The articles of agreement on this subject are hereto annexed. I regret to state that my proposition for the reduction of pamphlet and magazine postage between the two countries to one cent an ounce on either side, has been positively declined by the British Post Department. The combined rate is at present altogether too high, being eight cents an ounce for all works of this kind above the weight of two ounces.

In the month of March last, an arrangement was made with the proprietors of the Australia Pioneer line of monthly packets to convey mails regularly between New York and Port Philip, Australia, at two cents a letter, one-half cent per newspaper, and one-quarter cent an ounce for pamphlets and magazines; and with the view of affording to our citizens the cheapest practicable means of communication with that country, I have fixed the rates on all outgoing matter by that line at five cents a letter, two cents each for newspapers, and one cent an ounce, or fraction of an ounce, for pamphlets and magazines, pre-payment required. These rates embrace both the United States inland and sea postage. As the United States postage cannot be pre-paid on incoming

letters by this line, they are treated as ordinary ship letters. Similar arrangements have been made during the year, with the proprietors of the steamers Black Warrior and Cahawba, to convey mails semi-monthly between New York and Havana, and New Orleans and Havana, at two cents a letter; and also with the proprietor of the steamship Jewess, to convey mails once in every twenty days between New York and Nassau, New Providence, returning by way of Havana, at the same rate of compensation. By these agreements an important point has been gained in sustaining the department in the efforts which should be made in all future arrangements to keep the cost of the ocean service, if possible, within its receipts.

To the appendix marked A, I invite your particular attention and that of Congress. It exhibits full statistical information on the subject of the foreign mails; embracing the amount of postages, inland, sea and foreign, on mailable matter received and sent by the different mail steamship lines during the year; the amounts of letter postages on British, Prussian, Bremen and Havre mails; the portion thereof collected by the United States, Great Britain, Prussia and Bremen, respectively; and the amount of unpaid and paid matter received and sent by each of the lines of mail steamers. The gross and net revenues received by the department from each of the trans-Atlantic mail lines are shown, and also the revenue derived from the correspondence with Great Britain, Prussia and Bremen, respectively, under the existing postal arrangements with those countries, both including and excluding the United States inland postage. It also shows the number of letters and newspapers exchanged during the year between the United States and Great Britain in *British* mails; between the United States and Bremen in *Bremen* mails; and between the United States and the Kingdom of Prussia in *closed* mails; the number of letters (in ounces) received and sent in closed mails under each of our closed mail arrangements; and the number of letters and newspapers conveyed by the several home lines of ocean steamers. Other valuable statistics connected with the foreign mail service are also fully stated.

The usual report of fines and deductions will be duly furnished for the information of Congress. These fines and deductions for the year ending the 30th June, 1854, amount to \$110,486 59. The amount for the previous year was \$37,920 31. The increased amount has been mainly caused by a more rigorous exaction than heretofore of forfeitures incurred for defective service. The aggregate amount of fines and deductions for the last year has thus been greatly increased. I am pleased to say that the introduction into the post offices of a better system of responsibility for mail bags, has resulted in checking the waste of this species of property. The consequence has been a decrease of twenty per cent. in the number of letter mail bags procured during the year ending 30th June last, as compared with the preceding year, though the ordinary increase in the transportation of letters has required the use of a greater number of bags than were actually used before.

My assistants, and chief and other clerks, have faithfully attended to all their duties during the past year.

JAMES CAMPBELL.

To the PRESIDENT.

APPENDIX.

A.

The report of the Auditor for this department shows that the aggregate amount of postages, inland, sea, and foreign, on letters and other mailable matter received and sent by the following lines, during the last fiscal year, was—

By Collins line—New York and Liverpool.

On letters.....	\$298,273 55	
On newspapers.....	9,643 58	
		\$307,917 13

By New York and Bremen line.

On letters.....	\$135,687 07	
On newspapers.....	2,349 62	
		138,036 69

By New York and Havre line.

On letters.....	\$92,424 56	
On newspapers.....	2,353 52	
		94,778 08

By Charleston and Havana line.

On letters and newspapers.....		10,156 53
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By New York and California lines.

On letters and newspapers, including receipts from British and California closed mails pertaining to the lines.		324,006 19
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By New Orleans and Vera Cruz line.

On letters and newspapers.....		4,675 99
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Total.....		879,570 61
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The total amount of letter postage on British mails collected in the United States and Great Britain, was.. \$979,648 30

Collected in the United States.

By Collins line.....	\$182,100 23	
By Cunard line.....	372,119 42	
By Havre line.....	42,101 67	
By Bremen line.....	43,464 29	
		639,785 61

Collected in the United Kingdom.

By Collins line.....	\$83,307 52
By Cunard line.....	217,041 23
By Havre line.....	21,208 16
By Bremen line.....	18,305 78
	\$339,862 69

Excess collected in the United States.....		299,922 92
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Of the amount collected in the United States, there was—

Of unpaid received.....	\$363,326 52
Of paid sent.....	276,459 09

Of the amount collected in the United Kingdom, there was—

Of unpaid received.....	\$193,268 16
Of paid sent.....	146,594 53

The unpaid received in the United States exceeds the unpaid received in the United Kingdom.....	170,058 36
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And the paid sent from the United States also exceeds the paid sent from the United Kingdom.....	129,864 56
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The amount of unpaid received by Cunard line, was..	\$229,110 88
Deduct paid received by same line.....	101,477 06

Excess of unpaid received.....		127,633 82
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The amount of unpaid received by Collins line, was...	\$91,378 46
Deduct paid received by same line.....	31,271 45

Excess of unpaid received.....		60,107 01
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The amount of unpaid received by Havre line, was....	\$21,286 23
Deduct paid received by same line.....	7,161 44

Excess of unpaid received.....		14,124 79
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The amount of unpaid received by Bremen line, was..	\$21,550 95
Deduct paid received by same line.....	6,684 58

Excess of unpaid received.....		14,866 37
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Total excess of unpaid over paid received by all the lines.....		\$216,734 99
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The amount of paid sent by Cunard line, was.....	\$143,008 54
Deduct amount of unpaid sent by same line.....	115,564 17

Excess of paid sent.....		27,444 37
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The amount of paid sent by Collins line, was.....	\$90,721 77
Deduct amount of unpaid sent by same line.....	52,036 07
Excess of paid sent.....	<u>38,685 70</u>
The amount of paid sent by Havre line, was.....	\$20,815 44
Deduct amount of unpaid sent by same line.....	14,046 72
Excess of paid sent.....	<u>6,768 72</u>
The amount of paid sent by Bremen line, was.....	\$21,913 34
Deduct amount of unpaid sent by same line.....	11,621 20
Excess of paid sent.....	<u>10,292 14</u>
Total excess of paid over unpaid sent by all the lines..	\$83,190 93
The total amount of letter postages on Prussian mails during the year, was.....	<u>217,663 18</u>
Amount collected in Prussia.....	\$120,491 73
Amount collected in the United States.....	97,171 45
Excess collected in Prussia.....	<u>23,320 28</u>
Of the amount collected in Prussia, there was—	
Of unpaid received.....	\$104,494 74
Of paid sent.....	15,996 99
Of the amount collected in the United States, there was—	
Of unpaid received.....	\$41,903 64
Of paid sent.....	55,267 81
The total amount of paid and unpaid sent from Prussia, was.....	57,900 63
conveyed as follows:	
By the Cunard line.....	28,186 29
By the Collins line.....	16,772 42
By the Havre line.....	6,882 21
By the Bremen line.....	6,059 71
The total amount of paid and unpaid sent from the United States, was.....	159,762 55
conveyed as follows:	
By the Cunard line.....	84,062 30
By the Collins line.....	51,603 06
By the Havre line.....	17,110 35
By the Bremen line.....	6,986 84
The total amount of letter postages on Havre mails during the year, was.....	18,732 43
all of which was collected in the United States.	

Amount received by Havre line.....	\$10,540 70
Amount received by Collins line.....	102 90
Amount sent by Havre line.....	8,088 83
The total amount of letter postages on Bremen mails during the year, was.....	82,979 86
Amount collected in the United States.....	\$69,367 69
Amount collected in Bremen.....	13,612 17
Excess collected in United States.....	55,755 52

Of the amount collected in the United States, there was—

Of unpaid received.....	\$50,138 41
Of paid sent.....	19,229 28

Of the amount collected in Bremen, there was—

Of unpaid received.....	9,657 63
Of paid sent.....	3,954 54

The total amount sent from Bremen, was.....	54,092 95
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conveyed as follows:

By United States steamers	45,914 58
By Bremen steamers	8,178 37

The total amount sent from the United States was... conveyed as follows:	28,886 91
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By United States steamers of Bremen line.....	22,168 62
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By Bremen steamers, of Bremen line.....	5,090 12
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By Collins line.....	1,628 17
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British postages collected by United States.

Amount by Cunard line.....	\$372,119 42
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Deduct United States inland, $\frac{5}{24}$	77,524 88
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Balance.....	294,594 54
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Amount by the United States steamers.....	\$267,666 19
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Deduct United States inland and sea, $\frac{21}{24}$	234,207 91
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Balance.....	33,458 28
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Total.....	328,052 82
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United States postages collected by Great Britain.

Amount by Cunard line.....	\$217,041 23
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Deduct British inland and sea, $\frac{19}{24}$	171,824 30
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45,216 93	
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Amount by U. S. steamers.....	\$122,821 46
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Deduct British inland, $\frac{3}{24}$	15,352 68
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107,468 78	
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Total.....	152,685 71
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Excess of British collected by United States....	175,367 11
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This calculation is based on the assumption that all the letters originated in the United Kingdom or the United States, which is not the fact. It, however, gives the result in the most favorable light possible with respect to Great Britain, inasmuch as a very considerable portion of the unpaid matter received from Great Britain is from Australia, China, and other countries, in transit through the United Kingdom, on which the British proportion of the whole postage is proportionally much larger than it is on matter posted in Great Britain. On the other hand, the amount of unpaid matter received in Great Britain from countries in transit through the United States, on which the United States proportion of the postage is increased, is comparatively trifling.

Statements are annexed from the Auditor's office, showing the revenues derived to the United States, and also to the United States post office, from each of the trans-Atlantic mail steamship lines, as follows:

The gross revenue to the United States, without deducting commissions or the United States inland postages—

From the Cunard line, was	\$139,830 50
From the Collins line.....	274,741 16
From the Bremen line.....	123,507 11
From the Havre line.....	86,864 35
Total gross revenue.....	624,943 12

The net revenue to the United States post office, deducting commissions, but including the United States inland postages—

From the Cunard line, was.....	\$1,483 91
From the Collins line.....	208,670 89
From the Bremen line.....	84,817 01
From the Havre line.....	63,928 97
Total	358,900 78

The net revenue to the United States post office, deducting commissions, and also the United States inland postages—

From the Collins line, was.....	\$153,377 61
From the Bremen line.....	37,906 66
From the Havre line.....	46,303 82
Total net revenue by the three United States lines.	237,588 09

Statements are also annexed, showing the revenue derived during the last fiscal year by the United States, and by the United States post office, on the correspondence exchanged with Great Britain, Bremen, and Prussia, respectively, under the existing postal conventions with each of those countries, as follows:

The amount of postages collected by the United States on British mails, was.....	\$660,219 03
The net revenue to the United States post office, with United States inland included, but deducting the amount paid Great Britain, <i>difference on British mails</i> , and also commissions to United States postmasters, was.....	253,431 78

The net revenue to the United States post office for ocean postage, deducting the United States inland, was. . . .	\$39,988 09
The amount of postages accruing to the United States on <i>Bremen mails</i> , was.	69,621 42
The net revenue to the United States post office with the United States inland included, was.	39,988 09
Deducting the United States inland, there was a deficit to the United States post office of.	<u>1,501 84</u>

The amount of postages accruing to the United States on Prussian closed mails, was.	\$172,737 39
The disbursements by the United States for the conveyance of those mails, including \$91,962 58 paid to Great Britain, and commissions paid United States postmasters, was.	<u>178,132 95</u>
Showing a deficit to the United States Post Office Department of.	<u>5,395 56</u>

The number of letters exchanged between the United States and the United Kingdom, in *British mails*, during the year—

By the Cunard line, was.	2,740,866
By the Collins line.	1,086,495
By the Bremen line.	253,540
By the Havre line.	255,803
Total.	<u>4,336,704</u>

The number of newspapers—

By the Cunard line, was.	1,571,299
By the Collins line.	630,685
By the Bremen line.	122,787
By the Havre line.	148,005
Total.	<u>2,472,776</u>

The number of letters received—

By the Cunard line, was.	1,491,458
By the three United States lines.	707,635
Total received.	<u>2,199,093</u>

The number of letters sent—

By the Cunard line, was.	1,249,408
By the three United States lines.	888,203
Total sent.	<u>2,137,611</u>

The number of newspapers received—

By the Cunard line, was	716,864
By the three United States lines.....	243,241
Total received	<u>960,105</u>

The number of newspapers sent—

By the Cunard line, was	854,435
By the three United States lines.....	658,236
Total sent	<u>1,512,671</u>

The number of letters exchanged between the United States and Bremen, in *Bremen mails*, during the year—

By the Bremen line, was.....	377,530
By the Bremen steamers.....	65,797
By the Collins line	8,631
Total	<u>451,958</u>

The number of newspapers—

By the Bremen line, was.....	10,453
By the Bremen steamers.....	2,228
By the Collins line	1,035
Total	<u>13,716</u>

Of this number there were received—

	Letters.	Newspapers.
By the Bremen line	238,032	5,773
By the Bremen steamers.....	35,304	393
Total received.....	<u>273,336</u>	<u>6,166</u>

There were sent—

By the Bremen line	139,498	4,680
By the Bremen steamers.....	30,493	1,835
By the Collins line.....	8,631	1,035
Total sent	<u>178,622</u>	<u>7,550</u>

The number of letters exchanged between the United States and the kingdom of Prussia, in closed mails, during the year, was—

By the Cunard line.....	366,642
By the Collins, Havre, and Bremen lines combined....	345,652
Total	<u>712,294</u>

The number of newspapers was—	
By the Cunard line.....	25,025
By the Collins, Havre, and Bremen lines combined.....	25,031
Total	<u>50,056</u>

The number of letters received was—	
By the Cunard line	91,633
By the three United States lines.....	96,655
Total received.....	<u>188,288</u>

The number of letters sent was—	
By the Cunard line.....	275,009
By the three United States lines.....	248,997
Total sent	<u>524,006</u>

The number of newspapers received was—	
By the Cunard line	3,356
By the three United States lines.....	4,584
Total received.....	<u>7,940</u>

The number of newspapers sent was—	
By the Cunard line	21,669
By the three United States lines.....	20,447
Total sent	<u>42,116</u>

The number, *in ounces*, of letters received and sent in closed mails, during the year, was as follows:

Prussian closed mails received—	
By the Cunard line.....	30,059 ounces.
By the three United States lines.....	31,717
Total received.....	<u>61,776</u>

Prussian closed mails sent—	
By the Cunard line.....	85,350 ounces.
By the three United States lines.....	77,657
Total sent.....	<u>163 007</u>

Canada closed mails received—	
By the Cunard line	97,980 $\frac{1}{4}$ ounces.
By the three United States lines.....	2,847 $\frac{1}{2}$
Total received.....	<u>100,827$\frac{3}{4}$</u>

Sent—	
By the Cunard line.....	102,551 $\frac{3}{4}$ ounces.
By the three United States lines.....	2,844 $\frac{3}{4}$
Total sent.....	<u>105,396$\frac{1}{2}$</u>

California closed mails received—	
By the Cunard line.....	6,398 $\frac{1}{2}$ ounces.
By the three United States lines.....	2,145
By the West India British packets.....	6,276
Total received.....	<u>14,819$\frac{1}{2}$</u>

Sent—	
By the Cunard line.....	4,338 $\frac{1}{2}$ ounces.
By the three United States lines.....	1,963
Total sent.....	<u>6,301$\frac{1}{2}$</u>

Bremen closed mails sent by the Collins line.....	2,773 ounces.
Havana closed mails received—	
By the Cunard line.....	2,916 ounces.
By the three United States lines.....	985 $\frac{1}{2}$
Total received.....	<u>3,901$\frac{1}{2}$</u>

The number of letters and newspapers conveyed during the year was—

	Letters.	Papers.
By the New York, New Orleans, Aspinwall, and Pacific mail steamship lines.....	2,958,681	3,482,410
By the Charleston and Havana line.....	80,012	35,820
By the New Orleans and Vera Cruz line...	21,528	22,436
Totals.....	<u>3,060,221</u>	<u>3,540,666</u>

The amount received from Great Britain on loose letters collected during the year on board the Atlantic mail steamers was .. \$981 74
Amount paid Great Britain on same..... 87

The amount of postages collected by the United States, and accounted for to Great Britain, on letters to and from foreign countries, in transit through the United Kingdom, was—

On unpaid letters received.....	\$21,282 51
On paid letters sent.....	11,550 43
On unpaid newspapers received.....	1,155 97
On paid newspapers sent.....	692 06
Total.....	<u>34,680 97</u>

The amount collected by Great Britain and accounted for to the United States, on similar matter in transit through the United States, was—

On unpaid letters received	\$1,854 40	
On paid letters sent	13 96	
		\$1,868 36

Excess collected in the United States on this class of correspondence.....		32,812 61
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Amount received from Great Britain on dead letters returned to the London office.....		\$15,587 73
Amount paid Great Britain on dead letters returned to Washington.....		2,086 02
Amount received on dead letters returned to Prussia...		445 88
Amount paid on dead letters received from Prussia....		945 58
Amount received on dead letters returned to Bremen...		1,705 30
Balance due the United States on the adjustment of the accounts with Prussia at the close of the last fiscal year		70,412 13
Balance due Bremen on the adjustment of the accounts at the close of the fiscal year.....		13,823 46
Balance due Great Britain on adjustment of the accounts at the close of the fiscal year		195,522 68

The amount of postages for the year on mails received and sent between the United States and the British provinces, under the postal arrangements with Canada and New Brunswick, by which each party retains what it collects, was \$156,768 41. Of this amount the British provinces have collected from letters—

Of unpaid received.....	\$48,302 43
Of paid sent	30,928 77
Total collected in British provinces	79,231 20

The United States have collected from letters—	
Of unpaid received.....	\$38,161 79
Of paid sent.....	39,375 42

Total collected in the United States		77,537 21
Balance in favor of the provinces		1,793 99

The balance in favor of the provinces, during the previous year, as per last annual report, was \$1,543 22.

B.

United States mail service abroad as in operation on the 1st of October, 1854.

No. of route.	Routes.	Distance.	Number of trips.	Contractors.	Annual pay.	Remarks.
1	New York, by Southampton, England, to Bremenhaven, Germany.	3,760	Once a month.....	Ocean Steam Navigation Company, C. H. Sand, president.	\$200,000	Under contract with the Postmaster General, agreeably to act of Congress of March 3, 1845.
2	Charleston, S. C., by Savannah, Ga., and Key West, Fla., to Havana, Cuba.	669	Twice a month.....	M. C. Mordecai.....	*50,000	Under contract with the Postmaster General, agreeably to acts of Congress of March 3, 1847, and July 10, 1848.
3	New York to Aspinwall, New Grenada, direct. New York, via Havana, to New Orleans. Havana to Aspinwall.....	2,000 } 2,000 } 1,200 }	Twice a month.....	M. O. Roberts, B. R. McIlvain, and Moses Taylor.	290,000	Under contract with the Secretary of the Navy, agreeably to acts of Congress of March 3, 1847, and March 3, 1851.
4	Astoria, Oregon, by Port Orford and San Francisco, to Panama, New Grenada, (supplying Monterey, San Diego, &c., by a separate coastwise steamer from San Francisco, in due connexion with main line.)	4,200	Twice a month.....	Pacific Mail Steamship Company, William H. Aspinwall, president.	348,250	Under contract with the Secretary of the Navy and the Postmaster General, agreeably to acts of Congress of March 3, 1847, and March 3, 1851.
5	New York to Liverpool, England...	3,100	Twenty-six trips a year.	E. K. Collins, Jas. Brown, and Stewart Brown.	858,000	Under contract with the Secretary of the Navy, agreeably to acts of Congress of March 3, 1847, and July 21, 1852.
6	New York, by Cowes, to Havre, France.	3,270	Once a month.....	Ocean Steam Navigation Company, M. Livingston, agent.	150,000	Under contract with the Postmaster General, agreeably to act of Congress of March 3, 1847.

* With an additional allowance of \$2,083 for each *round trip* performed in steamships in the months of August and September, 1854, as per act of Congress of August 5, 1854.

C.

Statement of the sums paid for the year ending on the 30th of June, 1854, on the New York and Liverpool, New York and Chagres, and the Astoria and Panama mail lines, exhibiting in separate columns the whole contract pay, the amount of the ten per cent. deductions, &c., the sums deducted as fines on the recommendation of the Postmaster General, and the actual amounts paid over.

	Whole contract pay.	Amount of 10 per cent. deductions.	Amount deducted as fines.	Amount paid over.	Remarks.
New York and Liverpool line.....	\$858,000 00	\$55,448 43	.....	\$786,051 57	Twenty-five round trips and one single trip.
New York and Chagres line	290,000 00	53,722 28	\$1,000 00	235,277 72	
Astoria and Panama line.....	348,250 00	26,560 14	.....	321,689 85	

A. O. DAYTON, Fourth Auditor.

TREASURY DEPARTMENT, Fourth Auditor's Office, November 17, 1854.

D.

The United Kingdom of Great Britain and Ireland in account with the United States of America for the fiscal year ended June 30, 1854. (Service of the Post Office Department.)

Dr.

	3d quarter 1853.	4th quarter 1853.	1st quarter 1854.	2d quarter 1854.	Total.
<i>Mails sent.</i>					
For postage on unpaid letters from United States for United Kingdom	\$22,713 04	\$20,569 47	\$24,770 81	\$23,828 15	\$91,881 47
For postage on unpaid letters from foreign countries in transit.....	484 67	327 98	457 30	584 45	1,854 40
For postage on newspapers in transit, &c.....	.....	.....	.....	.....	.....
For postage on missent, redirected, and returned letters.....	13 84	9 51	17 02	16 93	57 30
<i>Mails received.</i>					
For postage on paid letters from United Kingdom for United States	14,819 72	15,268 40	15,173 16	16,292 10	61,553 38
For postage on paid letters from foreign countries in transit.....	3 56	4 54	1 40	4 46	13 96
For postage on paid newspapers from foreign countries in transit .....	.....	.....	.....	.....	.....
For postage on closed mails in transit through United States.....	13,592 56	13,051 99	13,864 66	14,317 00	54,826 21
For postage on loose letters (collected on ships)	239 26	215 55	184 17	342 76	981 74
For postage on dead letters returned to London	4,375 01	3,972 07	3,744 92	3,495 73	15,587 73
For postage (transit) on dead letters returned to Berlin.....	.....	154 62½	.....	.....	154 62½
For postage, overcharges, &c., on various letters and packages.....	53 76	.....	62 77	56	117 09
	56,295 42	53,574 13	58,276 21	58,882 14	227,027 90

Cr.

<i>Mails received.</i>					
For postage on unpaid letters from United Kingdom for United States.....	\$43,246 31	\$45,160 13	\$47,271 65	\$45,619 75	\$181,297 84
For postage on unpaid letters from foreign countries in transit.....	4,452 03	6,578 37	5,604 31	4,647 80	21,282 51
For postage on newspapers in transit, &c.....	187 10	289 07	358 79	321 01	1,155 97
For postage on missent, redirected, returned, &c.....	27 74	65 30	29 08	26 59	148 71
<i>Mails sent.</i>					
For postage on paid letters from United States for United Kingdom.....	24,972 89	28,130 24	28,518 20	26,240 10	107,861 43
For postage on paid letters for foreign countries in transit.....	2,459 82	2,935 58	3,216 59	2,938 44	11,550 43
For postage on paid newspapers for foreign countries in transit.....	137 08	176 58	200 22	178 18	692 06
For postage on closed mails in transit through United Kingdom	19,459 85	21,293 48	25,537 75	25,635 50	91,926 58
For postage on loose letters (collected on ships).....	87	.....	.....	.....	87
For postage on dead letters returned to Washington	509 91	577 58	477 63	520 90	2,086 02
For postage on letters and papers to West India ports by foreign packets.....	619 68	1,273 20	1,377 85	1,198 59	4,469 32
For postage, overcharges, &c., on various letters and packages.....	.....	40 59	.....	38 25	78 84
	96,073 28	106,520 12	112,592 07	107,365 11	422,550 58
Balances in favor of United Kingdom....	39,777 86	52,945 99	54,315 86	48,482 97	195,522 68

No. 1.

Revenue to the United States, and also to the United States Post Office Department, per Cunard line, for the fiscal year ended June 30, 1854.

Total postages by Cunard line.....	\$589,160 65
United States portion—to wit, $\frac{5}{24}$ —being U. S. inland....	122,741 80
Add postage on 854,435 papers sent.....	17,088 70
Total to United States.....	139,830 50
The Post Office Department pays the following commissions to postmasters on above total postages:	
For distribution on unpaid distributed received, \$141,212 51—10 per cent.....	\$14,121 25
For commissions to postmasters at the offices to which directed on above—30 per cent..	42,363 75
For distribution on paid distributed received, \$56,590 72—10 per cent.....	5,659 07
For distribution on paid distributed sent, \$98,343 36—10 per cent.....	9,834 33
For commissions to postmasters at the offices where paid on above—30 per cent.....	29,503 01
For distribution on unpaid distributed sent, \$74,353 09—10 per cent.....	7,435 31
For commissions to postmasters at New York, Boston, and Philadelphia, on—	
Unpaid received for those offices, \$87,898 37, at 15 per cent.....	13,184 75
Paid sent from those offices, \$44,665 18, at 15 per cent.....	6,700 77
For commissions on newspaper postage, \$17,088 70, at 50 per cent.....	8,544 35
	<u>137,346 59</u>
Net revenue to the Post Office Department, with United States inland postage included.....	1,483 91
Deduct United States inland on British mails, $\frac{5}{24}$ of \$589,160 65.....	122,741 80
Deficit to the Post Office Department without United States inland postage.....	<u>121,257 89</u>

No. 2.

Revenue to the United States, and also to the United States Post Office Department, per Collins line, for the fiscal year ended June 30, 1854.

Total postages by Collins line.....	\$265,407 75
Deduct British inland rate, $\frac{3}{4}$	33,175 97
	<u>232,231 78</u>

Add postage on 445,479 papers sent.....	\$8,909 58
Add sea rate on Prussian closed mails, 70,639 ounces, at 40 cents.....	28,255 60
Add newspapers, Prussian closed mails, 16,897, at 2 cents.....	337 94
Add sea rate on Bremen closed mails, 2,773 ounces, at 40 cents.....	1,109 20
Add sea rate on Canada closed mails, 5,273½ ounces, at 40 cents.....	2,109 40
Add newspapers, Canada closed mails, 10,638, at 2 cents.....	212 76
Add sea rate on California closed mails, 2,833½ ounces, at 40 cents.....	1,133 40
Add newspapers, California closed mails, 8,766, at 2 cents.....	175 52
Add sea rate on Havana closed mails, 645½ ounces, at 40 cents.....	258 20
Add newspapers, Havana closed mails, 399, at 2 cents..	7 98
Total to United States.....	<u>274,741 16</u>

The Post Office Department pays the following commissions to postmasters on above total postages:

For distribution on unpaid distributed received, \$53,385 19, at 10 per cent.....	\$5,338 52
For commissions to postmasters at the offices to which directed, on above, at 30 per cent.....	16,015 56
For distribution on paid distributed received, \$17,744 36, at 10 per cent.....	1,774 43
For distribution on paid distributed sent, \$62,842 61, at 10 per cent.....	6,284 26
For commissions to postmasters at the offices where paid, on above, at 30 per cent.....	18,852 78
For distribution on unpaid distributed sent, \$34,690 72, at 10 per cent.....	3,469 07
For commissions to postmasters at New York, Boston, and Philadelphia, on—	
Unpaid received for those offices, \$37,993 27, at 15 per cent.....	5,698 99
Paid sent from those offices, \$27,879 16, at 15 per cent.....	4,181 87
For commissions on newspaper postage, \$8,909 58, at 50 per cent.....	4,454 79
	<u>66,070 27</u>
Net revenue to Post Office Department, with United States inland postage included.....	208,670 89
Deduct United States inland on British mails, $\frac{5}{24}$ of \$265,407 75.....	55,293 28
Total net revenue to the Post Office Department without United States inland.....	<u><u>153,377 61</u></u>

No. 3.

Revenue to the United States, and also to the Post Office Department, per Bremen line, for the fiscal year ended June 30, 1854.

Amount of postage, British mails.....	\$61,770 07	
Deduct British inland postage, $\frac{3}{4}$	7,721 26	
		\$54,048 81
Add postage on 101,358 newspapers sent.....		2,027 16
Add postage on Bremen mails.....	\$68,083 20	
Less Bremen inland, $\frac{1}{10}$	6,808 32	
		61,274 88
Add postage on newspapers, Bremen mails.....		246 94
Add sea rate on Prussian closed mails, 13,859 ounces, at 40 cents.....		5,553 60
Add newspapers in Prussian closed mails, 2,834, at 2 cts.....		56 68
Add sea rate on Canada closed mails, 193 $\frac{1}{2}$ ounces, at 40 cents.....		77 40
Add newspapers in Canada closed mails, 477, at 2 cents.....		9 54
Add sea rate on California closed mails, 336 ounces, at 40 cents.....		134 40
Add newspapers in California closed mails, 387, at 2 cents.....		7 74
Add sea rate on Havana closed mails, 171 ounces, at 40 cents.....		68 40
Add newspapers in Havana closed mails, 78, at 2 cents..		1 56
Total to United States.....		123,507 11
The Post Office Department pays commissions to postmasters, (calculated as per revenue statement No. 1,) amounting to.....		38,690 10
Net revenue to the Post Office Department, with United States inland included.....		84,817 01
Deduct United States inland on British mails, $\frac{5}{4}$ of \$61,770 07.....		\$12,868 75
Deduct United States inland on Bremen mails, $\frac{5}{10}$ of \$68,083 20.....		34,041 60
		46,910 35
Total net revenue to the Post Office Department without United States inland.....		37,906 66

No. 4.

Revenue to the United States, and also to the Post Office Department, per Havre line, for the fiscal year ended June 30, 1854.

Amount of postages, British mails.....	\$63,309 83	
Deduct British inland postage, $\frac{3}{4}$	7,913 73	
		\$55,396 10
Add postage on 111,399 papers sent.....		2,227 98
Add postage on Havre mails.....		18,629 53
Add sea rate on Prussian closed mails, 24,876 ounces, at 40 cents.....		9,950 40
Add newspapers in Prussian closed mails, 5,330, at 2 cents.....		106 60
Add sea rate on Canada closed mails, 225 $\frac{1}{2}$ ounces, at 40 cents.....		90 20
Add newspapers in Canada closed mails, 341, at 2 cents.....		6 82
Add sea rate on California closed mails, 942 $\frac{1}{2}$ ounces, at 40 cents.....		377 00
Add newspapers in California closed mails, 546, at 2 cents.....		10 92
Add sea rate on Havana closed mails, 169 ounces, at 40 cents.....		67 60
Add newspapers in Havana closed mails, 60, at 2 cents.....		1 20
Total to United States.....		86,864 35
The Post Office Department pays commissions to postmasters (calculated as per revenue statement No. 1) amounting to.....		22,935 38
Net revenue to the Post Office Department, with United States inland included.....		63,928 97
Deduct United States inland on British mails, $\frac{5}{4}$ of \$63,309 83.....		\$13,189 55
Deduct United States inland on Havre mails, $\frac{5}{1}$ of \$18,629 53.....		4,435 60
		17,625 15
Total net revenue to the Post Office Department without United States inland.....		46,303 82

Statement of the amount of the revenue derived by the United States from the postages on British mails, under the postal convention with Great Britain, for the fiscal year ended June 30, 1854.

RECEIPTS.		
Amount of letter postages collected by the United States...	\$639,785 61	
Amount of newspaper postages collected by the United States	20,433 42	
		\$660,219 03
DISBURSEMENTS.		
Amount paid Great Britain difference on British mails, as per account current.....	168,629 53	
Amount paid in commissions to U. States postmasters—		
On mails per Cunard line.....	137,346 59	
On mails per Collins line.....	66,070 27	
On mails per Havre line.....	17,366 07	
On mails per Bremen line.....	17,374 79	
		406,787 25
Total revenue from British mails, with United States inland included		253,431 78
Deduct also, U. States inland postage on letter mails—		
Per Cunard line.....	122,741 80	
Per Collins line.....	55,293 28	
Per Havre line.....	13,189 55	
Per Bremen line.....	12,868 75	
Newspapers per Cunard, Collins, Havre, and Bremen lines..	10,216 71	
		214,310 09
Total net revenue on British mails for ocean postage.....		39,121 69

Revenue to the United States, and also to the Post Office Department, on the correspondence exchanged between the United States and Bremen, per Bremen mails, for the fiscal year ended June 30, 1854.

Amount of postage by Bremen and Collins lines.....	\$69,711 37	
Deduct Bremen portion inland, one-tenth.....	6,971 14	
		\$62,740 23
Amount of postage by Bremen steamers.....	13,268 49	
Deduct Bremen portion inland and sea, five-tenths.....	6,634 24	
		6,634 25
Add newspaper postage.....		246 94
		69,621 42
The Post Office Department pays commissions—		
To postmasters	26,110 84	
Collins line, for carrying 2,773 ounces, at 40 cents....	1,109 20	
Transit postage to Belgium for above.....	206 29	
Bremen steamers under temporary arrangement July 6, 1853.....	2,207 00	
		29,633 33
Revenue to Post Office Department, with United States inland included.....		39,988 09
Deduct United States inland by Collins and Bremen lines, five-tenths.....	34,855 68	
Deduct United States inland by Bremen steamers.....	6,634 25	
		41,489 93
Deficit to Post Office Department, without U. States inland.....		1,501 84

Receipts and disbursements on closed mails between the United States and the Kingdom of Prussia for the fiscal year ended June 30, 1854.

RECEIPTS.		
Amount of postage on paid and unpaid sent.....	\$159,762 55	
Deduct Prussian inland postage, seven-thirtieths.....	37,277 93	\$122,484 62
Amount of postage on paid and unpaid received.....	57,900 63	
Deduct Prussian inland postage, five-thirtieths.....	9,650 10	48,250 53
Total to United States.....		170,735 15
Add newspaper postage on 50,056, at 4 cents.....		2,002 24
		172,737 39
DISBURSEMENTS.		
Amount paid Great Britain for transportation of mails.....	91,962 58	
Commissions paid United States postmasters.....	41,909 55	
Collins line, for 70,639 ounces Prussian mails, at 40 cents...	28,255 60	
Collins line, for 16,897 papers, at 2 cents.....	337 94	
Havre line, for 24,876 ounces Prussian mails, at 40 cents...	9,950 40	
Havre line, for 5,330 papers, at 2 cents.....	106 60	
Bremen line, for 13,859 ounces Prussian mails, at 40 cents..	5,553 60	
Bremen line, for 2,834 papers, at 2 cents.....	56 68	178,132 95
Deficit to the Post Office Department.....		5,395 56

Amount of letter postages on British mails received in and sent from the United States, for the fiscal year ended June 30, 1854.

Received.	Unpaid.	Unpaid distributed.	Paid.	Paid distributed.	Total.
By Cunard line.....	\$87,898 37	\$141,212 51	\$44,886 34	\$56,590 72	\$330,587 94
By Collins line.....	37,993 27	53,385 19	13,527 09	17,744 36	122,649 91
By Havre line.....	4,687 08	16,599 15	2,346 96	4,814 48	28,447 67
By Bremen line.....	5,307 00	16,243 95	1,993 76	4,690 82	28,235 53
Total.....	135,885 72	227,440 80	62,754 15	83,840 38	509,921 05
Amount received	363,326 52	.....	146,594 53	.....	.....
Sent.	Paid.	Paid distributed.	Unpaid.	Unpaid distributed.	Total.
By Cunard line.....	\$44,665 18	\$98,343 36	\$41,211 08	\$74,353 09	\$258,572 71
By Collins line.....	27,879 16	62,842 61	17,345 35	34,690 72	142,757 84
By Havre line.....	3,682 32	17,133 12	2,823 42	11,223 30	34,862 16
By Bremen line.....	4,386 03	17,527 31	2,324 24	9,296 96	33,534 54
Total.....	80,612 69	195,846 40	63,704 09	129,564 07	469,727 25
Amount sent.....	276,459 09	.....	193,268 16	.....	.....

Amount collected in the United States	\$639,785 61
Amount collected in the United Kingdom	339,862 69
Total amount	979,648 30
Excess collected in the United States	299,922 92

Amount of letter postages on Bremen mails received in and sent from the United States, for the fiscal year ended June 30, 1854.

Received.	Unpaid.	Unpaid distributed.	Paid.	Paid distributed.	Total.
By Bremen line	\$7,820 58	\$34,661 46	\$1,049 60	\$2,382 94	\$45,914 58
By Bremen steamers..	1,513 79	6,142 58	170 35	351 65	8,178 37
Total	9,334 37	40,804 04	1,219 95	2,734 59	54,092 95
Amount received	50,138 41	.....	3,954 54	.....	.....
Sent.	Paid.	Paid distributed.	Unpaid.	Unpaid distributed.	Total.
By Bremen line	\$1,823 65	\$12,404 29	\$1,134 38	\$6,806 30	\$22,168 62
By Collins line	10 09	1,618 08	.....	.....	1,628 17
By Bremen steamers..	325 14	3,048 03	171 65	1,545 30	5,090 12
Total	2,158 88	17,070 40	1,306 03	8,351 60	28,886 91
Amount sent	19,229 28	.....	9,657 63	.....	.....

Amount collected in the United States	\$69,367 69
Amount collected in Bremen	13,612 17
Total amount	82,979 86
Excess collected in the United States	55,755 52

Amount of letter postages on Havre mails received in and sent from the United States, for the fiscal year ended June 30, 1854.

Received.	Unpaid.	Unpaid distributed.	Total.
By Havre line.....	\$4,497 10	\$6,043 60	\$10,540 70
By Collins line.....	57 96	44 94	102 90
Total.....	4,555 06	6,088 54	10,643 60
Sent.	Paid.	Paid distributed.	Total.
By Havre line.....	\$3,139 20	\$4,949 63	\$8,088 83
Total amount, all collected in United States.....			18,732 43

Amount of letter postages on Prussian mails received in and sent from the United States for fiscal year ended June 30, 1854.

Received.	Unpaid.	Unpaid distributed.	Paid.	Paid distributed.	Total.
By Cunard line.....	\$3,057 46	\$17,215 40	\$1,924 02	\$5,989 41	\$28,186 29
By Collins line.....	4,112 88	8,217 04	1,992 30	2,450 20	16,772 42
By Havre line.....	1,616 25	3,375 13	804 30	1,086 53	6,882 21
By Bremen line.....	1,287 95	3,021 53	814 40	935 83	6,059 71
Total.....	10,074 54	31,829 10	5,535 02	10,461 97	57,900 63
Amount sent.....	41,903 64		15,996 99		
Sent.	Paid.	Paid distributed.	Unpaid.	Unpaid distributed.	Total.
By Cunard line.....	\$8,684 55	\$19,750 60	\$15,893 44	\$39,733 71	\$84,062 30
By Collins line.....	5,296 55	12,377 24	9,979 20	23,950 07	51,603 06
By Havre line.....	1,486 47	4,273 24	2,837 66	8,512 98	17,110 35
By Bremen line.....	558 18	2,840 98	597 95	2,989 73	6,986 84
Total.....	16,025 75	39,242 06	29,308 25	75,186 49	159,762 55
Amount sent.....	55,267 81		104,494 74		

POSTMASTER GENERAL.

657

Amount collected in the United States	\$97,171 45
Amount collected in Prussia	120,491 73
Total amount.....	217,663 18
Excess collected in Prussia.....	23,320 28

Postages on the mails received and sent between the United States and the British provinces for the fiscal year ended June 30, 1854.

Amount of the mails received unpaid	\$38,161 79	
Do.....do.....paid	30,928 77	\$69,090 56
Amount of mails sent unpaid	48,302 43	
Do.....do.....paid	39,375 42	87,677 85
Total amount.....		156,768 41
Collected in the British provinces.....	79,231 20	
Do.....United States.....	77,537 21	
Balance in favor of the provinces.....	1,793 99	

Number of letters and newspapers exchanged between the United States and the United Kingdom in British mails.

For the fiscal year 1854.	Number of letters.		Total letters.	Number of papers.		Total papers.
	Received.	Sent.		Received.	Sent.	
By Cunard line	1,491,458	1,249,408	2,740,866	716,864	854,435	1,571,299
By Collins line.....	492,862	593,633	1,086,495	185,206	445,479	630,685
By Havre line	106,586	149,217	255,803	36,606	111,399	148,005
By Bremen line.....	108,187	145,353	253,540	21,429	101,358	122,787
Total.....	2,199,093	2,137,611	4,336,704	960,105	1,512,671	2,472,776

Number of letters and newspapers exchanged between the United States and Bremen, in Bremen mails.

For the fiscal year 1854.	Number of letters.		Number of papers.	
	Received.	Sent.	Received.	Sent.
By Bremen line.....	238,032	139,498	5,773	4,630
By Bremen steamers	35,304	30,493	393	1,835
By Collins line.....		8,631		1,035
Total.....	273,336	178,622	6,166	7,500

Number of letters and newspapers exchanged between the United States and the kingdom of Prussia, in closed mails, for the fiscal year ended June 30, 1854.

For the fiscal year 1854.	Number of letters.		Number of papers.	
	Received.	Sent.	Received.	Sent.
By Cunard line	91,633	275,009	3,356	21,669
By Collins line	54,481	169,892	2,315	14,555
By Havre line	22,407	56,346	1,269	4,061
By Bremen line	19,767	22,759	1,000	1,831
Total	188,288	524,006	7,940	42,116

Closed mail account for the fiscal year 1854.

	Prussian re- ceived.	Prussian sent.	Bremen sent.	Canada re- ceived.	Canada sent.	California re- ceived.	California sent.	Havana re- ceived.
LETTERS.								
By Cunard line	No. of ounces							
By Collins line	do	85, 350	2, 773	97, 980 $\frac{1}{2}$	102, 551 $\frac{1}{2}$	6, 398 $\frac{1}{2}$	4, 338 $\frac{1}{2}$	2, 916
By Havre line	do	52, 803		2, 641 $\frac{1}{2}$	2, 632	1, 455	1, 378 $\frac{1}{2}$	645 $\frac{1}{2}$
By Bremen line	do	17, 736		112	113 $\frac{1}{2}$	354	584 $\frac{1}{2}$	169
By W. I. British packets	do	7, 118		94	99 $\frac{1}{2}$	336		171
						6, 276		
Total		163, 007	2, 773	100, 827 $\frac{1}{2}$	105, 396 $\frac{1}{2}$	14, 819 $\frac{1}{2}$	6, 301 $\frac{1}{2}$	3, 901 $\frac{1}{2}$
PAPERS.								
By Cunard line	number	21, 762		481, 106	297, 484	16, 630	2, 755	1, 013
By Collins line	do	14, 513		6, 696	3, 942	8, 021	755	399
By Havre line	do	4, 061		282	59	270	276	60
By Bremen line	do	1, 731		427	50	387		78
By W. I. British packets	do					18, 400		
Total		42, 067		488, 511	301, 535	43, 708	3, 786	1, 550

Amount of postages accounted for on foreign dead letters returned to and sent from the United States, with the various offices of exchange, for the fiscal year ended June 30, 1854.

Great Britain to United States.	\$2,086 02	United States to Great Britain.	\$15,587 73
Kingdom of Prussia to United States.....	945 58	United States to Kingdom of Prussia.....	445 88
Bremen to United States.....	.....	United States to Bremen	1,705 30

Balances due the United States on the adjustment of the accounts between the United States and the Kingdom of Prussia for the fiscal year ended June 30, 1854.

3d quarter 1853	\$18,373 97
4th quarter 1853	16,681 03
1st quarter 1854	18,332 91
2d quarter 1854	17,024 22
Total.....	70,412 13

Balances due Bremen on the adjustment of the accounts between that office and the United States for the fiscal year 1854.

3d quarter 1853	\$3,163 13
4th quarter 1853	5,521 33
1st quarter 1854	3,878 91
2d quarter 1854	1,260 09
Total.....	13,823 46

Statement of the number of letters and newspapers, and the amount of postages thereon, conveyed by the various home lines of ocean steamers, for the fiscal year ended June 30, 1854.

POSTMASTER GENERAL.

661

Names of lines.	Offices.	Number of let- ters.	Number of pa- pers.	Postages on let- ters received.	Postages on let- ters sent.	Total postages.
New York, Chagres, and California.....	New York.....	1,888,840	2,646,222	\$100,215 59	\$89,058 67	\$189,274 26
	New Orleans.....	340,715	445,069	15,407 07	17,534 96	32,942 03
	Charleston.....	11,759	2,307	464 43	617 95	1,082 38
	Savannah.....	18,697	2,867	1,347 25	436 82	1,784 07
	Philadelphia.....	64,362	119,224	2,381 20	2,992 47	5,373 67
	Baltimore.....	29,983	23,502	1,244 20	1,243 28	2,487 48
	Washington.....	17,640	37,494	113 74	530 77	644 51
	Chicago.....	181,337	35,876	7,043 66	9,540 87	16,584 53
	Boston.....	405,348	169,849	19,855 65	16,097 51	35,953 16
Add to letter postage the postage on news- papers, at 1 cent each.....		2,958,681	3,482,410	148,072 79	138,053 30	286,126 09
Total postages.....						34,824 10
						320,950 19
Charleston and Havana.....	Charleston.....	63,215	15,621	7,526 41	1,057 53	8,583 94
	Savannah.....	16,797	20,199	437 43	418 76	856 19
Add postage on newspapers, at 2 cents each.....		80,012	35,820	7,963 84	1,476 29	9,440 13
Total postages.....						716 40
						4,675 99
New Orleans and Vera Cruz.....	New Orleans.....	21,528	22,436	2,321 45	1,905 82	4,227 27
Add postage on newspapers, at 2 cents each.....						448 72
Total postages.....						4,675 99

STATEMENT—Continued.

Names of lines.	Offices.	Number of letters.	Number of papers.	Postages on letters received.	Postages on letters sent.	Total postages.
New York and Havana, (1st and 2d quarters 1854).....	New York.....	15,428	11,734	\$625 48	\$1,563 50	\$2,188 98
.....	Mobile	1,454	6	138 03	40 79	178 82
Add postage on papers, at 2 cents each .....	.....	16,882	11,740	863 51	1,604 29	2,367 80
Total postages.....	.....	.....	.....	.....	.....	234 00
.....	.....	.....	.....	.....	.....	2,602 60
West India Islands, (1st and 2d quarters 1854) - Add postage on newspapers	Various offices.....	9,986	7,231	389 40	1,493 39	1,882 79
.....	.....	.....	.....	.....	.....	138 98
Total postages.....	.....	.....	.....	.....	.....	2,021 77
.....						
Panama.....	Various	10,289	7,976	1,626 54	2,473 97	4,100 41
Add postage on newspapers, at 4 cents each .....	.....	.....	.....	.....	.....	318, 04
Total postages.....	.....	.....	.....	.....	.....	4,418 45

E.

SETTLEMENT OF FURTHER DETAILS UNDER THE POSTAL TREATY WITH GREAT BRITAIN.

Additional articles to the articles agreed upon between the Post Office of the United Kingdom of Great Britain and Ireland and the Post Office of the United States of America for carrying into execution the convention of December 15, 1848.

In pursuance of the power granted, by article 21 of the convention of December 15, 1848, between the United Kingdom of Great Britain and Ireland and the United States of America, to the two post offices, to settle the matters of detail, which are to be arranged by mutual consent, for insuring the execution of the stipulations contained in the said convention, the undersigned, duly authorized for that purpose by their respective offices, have agreed upon the following articles:

ARTICLE I.

There shall be established, on the part of the United States, a new office of exchange at Philadelphia, which shall exchange mails with the British offices of London and Liverpool, by means of the British and of the United States mail packets plying between Liverpool and Boston, or New York, respectively, and by means of the United States mail packets plying between Southampton and New York.

ARTICLE II.

When the packets are despatched from Boston, or from New York, to Liverpool, the mails forwarded from the office of Philadelphia to the office of Liverpool shall comprise the correspondence for all parts of the United Kingdom, with the exception of the city of London and its suburbs.

The mails for London shall comprise all the correspondence for that city and its suburbs, and for countries in transit through the United Kingdom.

ARTICLE III.

When the packets are despatched from New York to Southampton, the mails forwarded from the office of Philadelphia to the office of London shall comprise the correspondence for all parts of the United Kingdom, with the exception of Southampton, and for foreign countries, (France and countries on the continent of Europe addressed via Southampton and Havre excepted,) and for British colonies and possessions in transit through the United Kingdom.

The mails for Southampton shall comprise all the correspondence for that town, and for France, and for countries on the continent of Europe specially addressed via Southampton and Havre.

ARTICLE IV.

Reciprocally, when the packets are despatched from Liverpool to Boston, or to New York, separate mails for Philadelphia shall be forwarded from the offices of London and Liverpool, comprising all the correspondence for the city of Philadelphia.

ARTICLE V.

When the packets are despatched from Southampton to New York, separate mails for Philadelphia shall be forwarded from the offices of London and Southampton, comprising all the correspondence for the city of Philadelphia.

ARTICLE VI.

The present articles shall be considered as additional to those agreed upon between the two offices for carrying into execution the convention of December 15, 1848, signed at Washington the 14th of May, 1849, and shall come into operation on the first day of January, one thousand eight hundred and fifty-four.

Done in duplicate and signed at London on the twenty-fifth day of November, one thousand eight hundred and fifty-three, and at Washington on the twelfth day of December, one thousand eight hundred and fifty-three.

HORATIO KING.
W. L. MABERLY.

Approved:

JAMES CAMPBELL.
CANNING.

POST OFFICE DEPARTMENT, CONTRACT OFFICE,

December 1, 1854.

SIR: For a statement of the mail service for the contract year ending 30th June, 1854, I respectfully refer you to the tables hereto annexed.

Table A exhibits the character of the service, the number of miles of transportation, and the cost thereof, as it stood at the close of the year.

Table B shows the number of mail routes in operation, and the number of mail contractors, route agents, local agents, and mail messengers, in the service of the department on the 30th June, 1854.

On the first of July last, the new service in the northwestern and southwestern sections, comprising the States of Michigan, Indiana, Illinois, Wisconsin, Iowa, Missouri, Kentucky, Tennessee, Alabama, Mississippi, Arkansas, Louisiana, Texas, California, and the Territories of Minnesota, Oregon, New Mexico, and Utah, was put in operation, the first quarter of which expired on the 30th September last.

Table C exhibits the service of these sections as it stood at the close of the contract year, 30th June, 1854, and at the close of the first quarter of the current year.

Table D exhibits railroad service as in operation on the 30th June, 1854; also the cost per mile in each State.

Tables E and F exhibit the railroad and steamboat service for the current year, showing the particulars of each railroad and steamboat route.

I have the honor to be, very respectfully, your obedient servant,

W. H. DUNDAS,

Second Assistant Postmaster General.

Hon. JAMES CAMPBELL,

Postmaster General.

Texas.....	10,023	7,766	63,728	1,087	48,218	1,170	32,000	.....	921,648	277,940	130,000	.....	1,329,588	144,000
California	3,683	2,911	86,748	517	35,185	255	21,000	.....	258,484	174,026	159,120	.....	591,630	142,933
Oregon Territory.....	2,058	1,797	28,151	.....	.....	261	17,000	.....	98,988	.....	38,038	.....	137,026	45,151
New Mexico Territory.	980	70	600	910	28,000	.....	.....	.....	7,280	21,840	.....	.....	29,120	28,600
Utah Territory.....	177	.....	.....	177	2,545	.....	.....	.....	.....	22,568	.....	.....	22,568	2,545
Total.....	219,935	137,382	1,092,833	52,878	1,290,095	15,235	489,138	14,440	21,267,603	20,890,530	5,795,483	15,433,389	63,387,005	4,630,676
Route and local agents and mail messengers.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	295,109
Foreign mails.....	8,651	52	119,727	.....	.....	8,599	469,750	.....	2,508	.....	265,632	.....	268,140	589,477
Total.....	228,586	137,434	1,212,560	52,878	1,290,095	23,834	958,888	14,440	21,270,111	20,890,530	6,061,115	15,433,389	63,655,145	5,515,262

* The Baltimore, Wilmington, and Philadelphia railroad, is under a Maryland number.

† This embraces the steamboat service from St. Louis to New Orleans.

‡ This embraces the steamboat service from Louisville to Cincinnati, and from Louisville to New Orleans.

§ This includes the route from New Orleans to Mobile.

This is for service from Panama to Aspinwall, performed by the Panama Railroad Company at a stipulated price per trip, according to weight of mail, and which varies from year to year.

W. H. DUNDAS, Second Assistant Postmaster General.

B.

Number of mail routes, mail contractors, route agents, local agents, and mail messengers, at the close of the contract year ending June 30, 1854.

Sections.	Routes.	Contractors.	Route agents.	Local agents.	Mail messengers.
New England.....	842	735	46	-----	145
New York.....	535	448	46	2	304
Middle.....	1,314	988	56	4	309
Southern.....	1,231	834	38	-----	62
Northwestern.....	1,412	1,093	31	8	92
Southwestern.....	1,363	1,069	19	7	56
Ocean routes.....	8	7	24	1	-----
Total.....	6,705	5,174	260	22	968

W. H. DUNDAS,
Second Assistant Postmaster General.

C.

Mail service in the northwest section, comprising the States of Michigan, Indiana, Illinois, Wisconsin, Iowa, Missouri, and the Territory of Minnesota.

	Annual transportation.	Annual cost.
<i>Service as in operation on the 30th of June, 1854.</i>		
	<i>Miles.</i>	
Railroads.....	1,776,640	\$175,115
Steamboats.....	1,514,350	55,728
Coaches.....	4,683,167	305,430
Inferior modes.....	4,859,937	213,117
Total.....	12,834,094	749,390
<i>As in operation on the 30th of September, 1854.</i>		
Railroads.....	2,816,516	245,556
Steamboats.....	1,320,592	47,063
Coaches.....	2,957,824	229,269
Inferior modes.....	6,634,850	443,654
Total.....	13,729,782	965,542
	12,834,094	749,390
Difference.....	895,688	216,152

W. H. DUNDAS,
Second Assistant Postmaster General.

C—Continued.

Mail service in the southwest section, comprising the States of Kentucky, Tennessee, Alabama, Mississippi, Arkansas, Louisiana, Texas, California, and the Territories of Oregon, New Mexico, and Utah.

	Annual trans- portation.	Annual cost.
<i>Service as in operation on the 30th of June, 1854.</i>		
	<i>Miles.</i>	
Railroads	566,436	\$65,761
Steamboats.....	2,795,806	324,921
Coaches.....	3,555,654	411,087
Inferior modes.....	6,304,200	429,257
Total.....	13,222,096	1,231,026
<i>As in operation on the 30th September, 1854.</i>		
Railroads	760,450	97,562
Steamboats.....	2,839,272	389,705
Coaches.....	3,716,248	416,799
Inferior modes.....	8,001,298	506,181
Total.....	15,317,268	1,410,247
	13,222,096	1,231,026
Difference.....	2,095 172	179,221

W. H. DUNDAS,
Second Assistant Postmaster General.

D.

Railroad service as in operation on the 30th June, 1854, showing the cost per mile in each State.

Number of route.	Termini.	Distance.	Total distance in each State.	Number of trips per week.	Annual pay.	Annual pay in each State.	Annual cost of route agencies.	Annual cost of mail-messenger service.	Total annual cost.	Annual cost per mile.	Total average cost per mile in each State.
		Miles.	Miles.								
92	MAINE. Railroad junction at Danville to Waterville.....	55	.....	12	\$5,500 00	.....	\$800 00	\$346 00	.....	\$120 84	.....
95	Mechanics' Falls to Buckfield.	12	.....	6	570 00	.....	.....	.....	.....	47 50	.....
96	Portland, Me., to Portsmouth, N. H.....	52 1/2	.....	12	7,837 50	.....	1,177 00	190 00	.....	177 00	.....
97	Portland to Augusta, with branch, Brunswick to Bath.	73	.....	12	7,300 00	.....	800 00	325 00	.....	115 41	.....
100	Portland, Me., to the State line, Vt.....	48	.....	12 } 6 }	16,500 00	.....	1,200 00	209 00	.....	107 23	.....
129	Leed's Station to Livermore Falls.....	20	.....	6	857 00	.....	.....	16 00	.....	43 65	.....
132	Portland to Hollis.....	18	.....	6	771 00	.....	.....	.....	.....	.....	.....
			397 1/2	.....	.....	\$39,335 50	3,977 00	1,086 00	\$44,398 50	.....	\$111 82
201	NEW HAMPSHIRE. Concord, N. H., to Lowell, Mass.....	50	.....	18	6,429 00	.....	761 00	.....	.....	143 80	.....
202	Concord to Portsmouth.....	47	.....	12	2,043 00	.....	.....	.....	.....	47 47	.....
206	Concord, N. H., to Wells River, Vt.....	52 } 43 }	.....	12 } () }	7,125 00	.....	983 00	.....	.....	85 34	.....

207	Concord to White River junction.....	69	.....	12	8,500 00	.....	843 00	.....	.....	114 00
208	Branch, Franklin to Bristol ..	13	.....	6	.....	.....	.....	.....	.....	58 30
209	Concord to Bradford	26	.....	12	1,300 00	.....	216 00	.....	.....	50 00
215a	Contocook Village to Hillsboro' Bridge.....	15	.....	12	750 00	.....	.....	.....	.....	42 86
239	Manchester to Henniker	28	.....	6	1,200 00	.....	.....	.....	.....	42 88
241	Great Falls to South Milton..	12½	.....	6	536 00	.....	.....	.....	.....	53 00
251	Dover to Alton Bay	28	.....	6	1,400 00	.....	.....	86 00	.....	42 88
277	Nashua to East Wilton.....	16	.....	6	686 00	.....	.....	.....	.....	60 33
	Wells River to Littleton	21	.....	(+)	1,050 00	.....	217 00	.....	.....	.....
			420	.....	.....	31,019 00	3,020 00	86 00	34,125 00	81 25
VERMONT.										
401	Windsor to Burlington.....	117	.....	12	11,700 00	.....	1,667 00	396 00	.....	117 63
411	Burlington, Vt., to Rouse's Point, N. Y.....	53½	.....	12	5,350 00	.....	800 00	553 00	.....	125 30
446	Rutland to North Bennington..	52	.....	12	.....	.....	.....	.....	.....	109 00
456	Branch to Bennington	5	.....	6	5,417 00	.....	433 00	350 00	.....	109 00
460	White River junction to St. Johnsbury	61	.....	12	5,229 00	.....	966 00	461 00	.....	109 00
462	Bellows Falls to Windsor	25	.....	12	2,500 00	.....	396 00	377 00	.....	131 00
469	Bellows Falls to Burlington...	120	.....	12	13,500 00	.....	1,635 00	.....	.....	126 00
	Brattleboro' to Bellows Falls.	24	.....	12	2,400 00	.....	389 00	176 00	.....	123 54
			457½	.....	.....	46,096 00	6,236 00	2,313 00	54,695 00	119 55
MASSACHUSETTS.										
601	Boston, Mass., to Portsmouth, N. H.....	54½	.....	12	8,324 00	.....	1,223 00	.....	.....	163 66
602	Branch to Marblehead	4	.....	12	.....	.....	.....	.....	.....	.....
	Boston to South Berwick junction.....	74½	.....	12	.....	.....	.....	.....	.....	.....
	Branch, Boston to Medford....	5½	.....	6	8,815 00	.....	1,800 00	125 00	.....	129 40
	Branch, Rollinsford to Great Falls.....	3	.....	6	.....	.....	.....	.....	.....	.....

* 12 trips a week 4 months, and 6 trips a week 8 months.

+ 12 trips a week 3 months, and 6 trips a week 9 months.

D.—Railroad service as in operation on the 30th June, 1854—Continued.

Number of route.	Termini.	Distance. Miles.	Total distance in each State.	Number of trips per week.	Annual pay.	Annual pay in each State.	Annual cost of route agencies.	Annual cost of mail- messenger service.	Total annual cost.	Annual cost per mile.	Total average cost per mile in each State.
603	Boston to Lowell.....	26	Miles.	18 }	\$3,600 00	.....	\$317 00	.....	.....	\$135 07	.....
604	Branch, Winchester to Woburn Boston to Fitchburg..... Branch, Cambridge to Lexing- ton	3 50½ 8	..... ..... .....	6 18 }	.....	.....	.....	.....	.....	.....	.....
	Branch, Junction to Water- town	4	.....	6 }	7,425 00	.....	694 00	\$584 00	.....	121 29	.....
605	Branch, South Acton to Felton- ville	9	.....	6 }	.....	.....	.....	.....	.....	.....	.....
	Boston to Worcester	46	.....	19 }	.....	.....	.....	.....	.....	.....	.....
	Branch, Natick to Saxonville. Branch, South Framingham to Framingham	20	.....	6 }	12,528 00	.....	544 00	795 00	.....	198 01	.....
606	Branch, South Framingham to Milford..... Branch to Milbury	45	.....	6 }	.....	.....	.....	.....	.....	.....	.....
	Boston, Mass., to Providence, R. I.....	5	.....	18 }	5,718 00	.....	327 00	167 00	.....	107 11	.....
607	Branch to Dedham..... Branch to Seekonk..... Dedham to Blackstone..... Branch, North Wrentham to Midway	8 25½ 4	..... ..... .....	6 6 }	1,447 00	.....	.....	.....	.....	49 05	.....
615	Salem to Lawrence.....	20	.....	6 }	713 00	.....	.....	.....	.....	35 65	.....
618	Lawrence to Manchester.....	28	.....	12 }	1,400 00	.....	234 00	.....	.....	58 35	.....

622	Lowell to Lawrence	14	.....	12	700 00	.....	.....	.....	69 00	.....	54 93
625	Groton Junction to Mason Village	23	.....	6	986 00	.....	.....	.....	.....	.....	42 87
626	Groton Junction to Lowell	17	.....	6	854 00	.....	.....	.....	.....	.....	50 23
628	Boston to Dover	18	.....	6	500 00	.....	.....	.....	.....	.....	27 77
634	South Braintree Junction to Fall River	42	.....	12	3,800 00	.....	600 00	.....	.....	.....	104 76
635	Braintree Depot to Cohasset	12	.....	6	600 00	.....	.....	.....	.....	.....	50 00
641	Middleboro' to West Barnstable	36	.....	6	2,526 00	.....	.....	.....	.....	.....	70 16
652	Taunton to Mansfield Junction	12	.....	19	1,200 00	.....	.....	.....	78 00	.....	106 50
653	Taunton to New Bedford	21	.....	19	2,100 00	.....	.....	.....	.....	.....	100 00
660	Fitchburg, Mass., to Bellows Falls, Vt.	64	.....	12	6,400 00	.....	871 00	.....	554 00	.....	122 26
661	Fitchburg, Mass., to Brattleboro', Vt.	67	.....	6 }	.....	.....	.....	.....	.....	.....	.....
666	Palmer to Amherst	10	.....	18 }	4,637 00	.....	762 00	.....	445 00	.....	75 90
672	Worcester to Albany	20	.....	6	857 00	.....	.....	.....	124 00	.....	49 05
673	Worcester to Nashua	55	.....	19 }	.....	.....	.....	.....	.....	.....	.....
692	Springfield to Keene	102	.....	12 }	26,500 00	.....	1,856 00	.....	175 00	.....	181 72
692a	Willimansett to South Hadley	46	.....	12 }	3,468 75	.....	600 00	.....	409 00	.....	97 34
693	Springfield to Chickopee Falls	50	.....	12 }	.....	.....	.....	.....	.....	.....	.....
699	Pittsfield to North Adams	24	.....	6 }	6,200 00	.....	811 00	.....	412 00	.....	100 31
703	Stirling Junction to Fitchburg	6	.....	6	250 00	.....	.....	.....	.....	.....	41 66
	.....	6	.....	6	300 00	.....	.....	.....	.....	.....	50 00
	.....	21	.....	12	900 00	.....	.....	.....	.....	.....	42 76
	.....	14	.....	12	700 00	.....	.....	.....	.....	.....	50 00
			1,129 ¹ / ₂	.....	.....	\$113,448 75	10,639 00	.....	3,937 00	\$128,024 75	\$113 34
802	Providence, R. I., to Stonington, Ct.	50	.....	12	5,000 00	.....	364 00	.....	189 00	.....	111 00
807	Providence, R. I., to Worcester, Mass.	44	.....	12	4,044 00	.....	600 00	.....	.....	.....	105 54
			94	.....	.....	9,044 00	964 00	.....	189 00	.....	108 48

RHODE ISLAND.

D.—Railroad service as in operation on the 30th June, 1854—Continued.

Number of route.	Termini.	Distance.	Total distance in each State.	Number of trips per week.	Annual pay.	Annual pay in each State.	Annual cost of route agencies.	Annual cost of mail-messenger service.	Total annual cost.	Annual cost per mile.	Total average cost per mile in each State.
		Miles.	Miles.								
907	Hartford to Willimantic.....	32½	.....	12	\$1,606 00	.....	.....	\$170 00	.....	\$54 64	.....
908	Hartford to Bristol.....	20	.....	12	1,000 00	.....	.....	.....	.....	50 00	.....
925	Norwich, Ct., to Worcester, Mass.....	59	.....	12	5,057 00	.....	\$600 00	111 00	.....	97 76	.....
928	New London, Ct., to Palmer, Me.....	14	.....	12 }	3,800 00	.....	600 00	601 00	.....	55 77	.....
933	Middletown to depot on New Haven, Hartford, and Springfield railroad.....	10	.....	12	500 00	.....	.....	50 00	.....	55 00	.....
937	New Haven to New London.....	50	.....	12	4,285 00	.....	600 00	698 00	.....	111 60	.....
939	New Haven, Ct., to Springfield, Mass.....	63½	.....	19	15,833 00	.....	1,033 00	595 00	.....	275 04	.....
940	New Haven to Tariffville.....	45	.....	12 }	2,571 50	.....	.....	200 00	.....	52 80	.....
941	New Haven, Ct., to New York, N. Y.....	78	.....	19	19,500 00	.....	1,800 00	513 00	.....	279 65	.....
942	Bridgeport to Winchester.....	62	.....	12	3,100 00	.....	600 00	105 00	.....	61 37	.....
943	Bridgeport, Ct., to State Line, Mass., and branch to Pittsfield.....	121	.....	6	5,143 00	.....	1,200 00	88 00	.....	53 00	.....
959	South Norwalk to Danbury.....	23½	.....	12	1,307 00	.....	.....	305 00	.....	68 59	.....
			638	.....	.....	\$63,702 50	6,438 00	3,436 00	\$73,576 50	.....	\$115 32

NEW YORK.					
1001	New York to Dunkirk.....	460			92,000 00
	Branch, Sufferns to Piermont..	18			772 00
1002	New York to Albany.....	144			32,400 00
1003	New York to Chatham Four Corners.....	130½			5,592 86
1008	New York to Greenport.....	101			4,950 00
1034	Newburg to Chester.....	19			814 00
1074	Eagle Bridge, N. Y., to Rut- land, Vt.....	62½			6,250 00
1081	Albany to Schenectady.....	17			3,400 00
1087	Troy to East Albany.....	7			900 00
1088	Troy to Schenectady.....	22			1,650 00
1089	Troy to Saratoga Springs.....	32			3,200 00
1100	Saratoga Springs, N. Y., to Castleton, Vt.....	54			5,400 00
1126	Plattsburg to Canada line.....	23			986 00
1128	Rouse's Point to Ogdensburg..	119			5,100 00
1151	Sackett's Harbor to Pierrepont Manor.....	18½			791 65
1162	Schenectady to Ballston.....	16			800 00
1164	Schenectady to Utica.....	78			15,600 00
1191	Utica to Syracuse.....	53			10,600 00
1201	Rome to Cape Vincent.....	73			8,329 00
		24			20,800 00
1217	Syracuse to Rochester.....	104			4,000 00
1218	Syracuse to Rochester.....				3,043 00
1219	Syracuse to Oswego.....	80			2,325 00
1258	Canandaigua to Watkins.....	35½			4,514 00
1261	Canandaigua to Niagara Falls..	46½			7,600 00
1264	Rochester to Niagara Falls....	97			13,800 00
1269	Rochester to Buffalo.....	76			471 00
1287	Batavia to Attica.....	69			1,100 00
1305	Buffalo to Niagara Falls.....	11			3,900 00
1306	Buffalo to Hornellsville.....	22			13,800 00
1311	Buffalo to State line.....	91			4,286 00
1357	Corning to Batavia.....	69			1,100 00
1359	Elmyra to Watkins.....	100			1,100 00
		22			

D.—Railroad service as in operation on the 30th June, 1854—Continued.

Number of route.	Termini.	Distance. Miles.	Total distance in each State. Miles.	Number of trips per week.	Annual pay.	Annual pay in each State.	Annual cost of route agencies.	Annual cost of mail- messenger service.	Total annual cost.	Annual cost per mile.	Total average cost per mile in each State.
1365	Owego to Ithaca	33	.....	12	\$1,415 00	.....	\$700 00	\$223 00	.....	\$70 85	.....
1440	Buffalo to Lockport	22	.....	6	1,100 00	.....	.....	.....	.....	50 00	.....
1459	Suspension Bridge to Detroit, Michigan	220	.....	6	6,600 00	.....	1,600 00	800 00	.....	40 90	.....
1460	Troy, N. Y., to North Benning- ton, Vt.	32½	.....	12	3,250 00	.....	224 00	584 00	.....	124 86	.....
1461	Albany to Eagle Bridge	33	.....	12	2,829 00	.....	379 00	155 00	.....	101 91	.....
			2,635	.....	.....	\$295,468 51	33,224 00	.....	\$355,803 51	.....	\$131 71
NEW JERSEY.											
9001	New York, N. Y., to New Bruns- wick, N. J.	36	.....	19	13,838 00	.....	1,200 00	1,125 00	.....	*449 00	.....
9003	New York, N. Y., to Hacketts- town	63	.....	12	5,400 00	.....	600 00	289 00	.....	100 00	.....
9020	Elizabethport to Easton	64	.....	12	5,486 00	.....	600 00	1,047 00	.....	111 00	.....
9054	New Brunswick, N. J., to Phila- delphia, Pa.	54	.....	19	20,250 00	.....	1,800 00	2,980 00	.....	463 50	.....
9069	Trenton to Easton	50	.....	12	2,500 00	.....	.....	548 00	.....	61 00	.....
9079	Burlington to Mount Holly	7	.....	12	300 00	.....	.....	.....	.....	43 00	.....
9085	Philadelphia, Pa., to South Am- boy, N. J.	72	.....	7	7,379 00	.....	.....	586 00	.....	111 00	.....
			346	.....	.....	55,153 00	4,200 00	6,575 00	65,928 00	.....	190 50

PENNSYLVANIA.									
9200	Philadelphia to Columbia	70	.....	14	13,800 00	}	1,177 00	159 00	190 50
9210	Philadelphia to Pottsville	13½	.....	7	675 00	.....	1,600 00	3,262 00	196 52
9223	West Chester to Philadelphia	97	.....	12	14,218 00	.....	.....	100 00	26 00
9297	Port Clinton to Tamaqua	33	.....	12	750 00	.....	.....	110 00	48 00
9302	Lancaster to Harrisburg	20	.....	6	858 00	.....	623 00	198 00	225 00
9310	Columbia to Middletown	37½	.....	14	7,525 00	.....	.....	200 00	53 50
9316	York to Harrisburg	19	.....	6	815 00	.....	.....	85 00	233 00
9323	Harrisburg to Chambersburg	27	.....	14	5,400 00	.....	848 00	50 00	101 00
9336	Harrisburg to Pittsburg	52	.....	7	5,200 00	.....	.....	3,699 00	229 00
9352	Chambersburg to Hagerstown, Maryland	250	.....	14	50,000 00	.....	3,600 00	.....	.....
9367	Pottsville to Tuscarora	10	.....	6	943 00	.....	.....	22 00	96 50
9441	Blossburg to Corning	11½	.....	6	300 00	.....	.....	140 00	40 00
9600	Lodersville to Scranton	40	.....	6	1,715 00	.....	600 00	215 00	63 25
9601	Northville to Erie	50	.....	6	2,143 00	.....	600 00	483 00	64 50
9603	Glen Rock to Hanover	20	.....	14	4,000 00	.....	.....	247 00	213 00
9606	Schuylkill Haven to Tremont	13	.....	6	557 00	.....	.....	340 00	69 00
		12	.....	6	510 00	.....	.....	.....	42 50
			775½	.....	.....	109,409 00	9,048 00	9,260 00	127,717 00
				.....	.....	.....	.....	.....	165 00
MARYLAND.									
9850	Baltimore, Md., to Philadelphia	102	.....	19	37,500 00	.....	5,028 00	3,736 00	414 00
9851	Pennsylvania	40	.....	26	12,000 00	.....	1,972 00	586 00	363 00
9852	Baltimore, Md., to Washington, D. C.	179	.....	13	53,700 00	.....	.....	432 00	255 00
9856	Baltimore, Md., to Wheeling, Virginia	201	.....	7	37,687 00	.....	5,400 00	.....	.....
	Branch, Frederick to Junction.	3	.....	7	300 00	.....	.....	.....	.....
9887	Baltimore to Columbia	59	.....	14 }	12,450 00	.....	1,852 00	90 00	200 00
	Annapolis to Annapolis junction	13	.....	7 }	2,858 00	.....	.....	30 00	144 50
		20	617	13	.....	156,495 50	14,252 00	4,874 00	173,621 50

* Includes \$3,038, being 25 per cent. on \$300 a mile for night service and for a third extra trip.

† Includes \$4,050, being 25 per cent. on \$300 a mile for night service and for a third extra trip.

D.—Railroad service as in operation on the 30th June, 1854—Continued.

Number of route.	Termini.	Distance.	Total distance in each State.	Number of trips per week.	Annual pay.	Annual pay in each State.	Annual cost of route agencies.	Annual cost of mail-messenger service.	Total annual cost.	Annual cost per mile.	Total average cost per mile in each State.
		Miles.	Miles.								
10056	Erie, Pa., to Cleveland, Ohio.	96	.....	13	\$25,920 00	.....	\$1,800 00	\$1,770 00	.....	\$307 00	.....
10154	Springfield to Dayton.....	24	.....	6	2,400 00	.....	800 00	251 00	.....	144 00	.....
10156	Columbus to Xenia.....	55	.....	13	14,850 00	.....	900 00	151 00	.....	289 00	.....
10160	Columbus to Cleveland.....	138	.....	13	37,260 00	.....	900 00	1,663 00	.....	289 00	.....
10185	Mansfield to Sandusky.....	61	.....	6	5,229 00	.....	600 00	804 00	.....	108 00	.....
10186	Mansfield to Newark.....	63	.....	6	5,400 00	.....	600 00	398 00	.....	102 00	.....
10234	Springfield to Sandusky.....	132	.....	6	13,200 00	.....	800 00	396 00	.....	109 00	.....
	Branch, Carey to Finley.....	16	.....	6	2,700 00	.....	.....	.....	.....	43 00	.....
	Branch, Tiffin to Bellevue.....	38	.....	6	.....	.....	.....	.....	.....	.....	.....
	Branch, Sandusky to Huron..	9	.....	6	.....	.....	.....	.....	.....	.....	.....
10264	Cincinnati to Springfield.....	64	.....	13	17,280 00	.....	900 00	675 00	.....	295 00	.....
	.....	19	.....	6	1,900 00	.....	.....	.....	.....	100 00	.....
10266	Cincinnati to Dayton.....	6	.....	.....	6,000 00	.....	800 00	946 00	.....	129 00	.....
10284	Cincinnati to New Castle.....	94	.....	6	4,028 00	.....	600 00	287 00	.....	52 00	.....
10329	Cleveland to Wellsville.....	.....	.....	6	.....	.....	.....	.....	.....	.....	.....
	.....	53	.....	6	12,518 00	.....	1,600 00	749 00	.....	93 00	.....
10330	Pittsburg, Pa., to Crestline, Ohio.....	.....	.....	6	.....	.....	.....	.....	.....	.....	.....
	.....	187	.....	6	22,800 00	.....	1,600 00	1,315 00	.....	96 00	.....
10331	Zanesville to Columbus.....	60	.....	14	12,000 00	.....	1,200 00	214 00	.....	223 00	.....
10334	Hillsboro' to Loveland.....	37	.....	6	1,850 00	.....	.....	145 00	.....	54 00	.....
10342	Galion to Union City.....	118	.....	6	5,142 00	.....	1,400 00	89 00	.....	56 00	.....
10343	Dayton to Indianapolis.....	130	.....	6	13,000 00	.....	1,300 00	75 00	.....	110 00	.....

10344	Toledo to Grafton.....	87	.....	.....	17,900 00	.....	1,600 00	703 00	.....	232 00
10395	Dayton to Piqua	28	.....	.....	1,200 00	.....	.....	.....	.....	43 00
10396	Columbus to Urbana	46	.....	.....	1,971 00	.....	600 00	134 00	.....	59 00
10417	Springfield to Delaware.....	50	.....	.....	1,500 00	.....	.....	65 00	.....	31 00
10397	Cleveland to Sandusky.....	614	.....	.....	2,625 00	.....	600 00	400 00	.....	59 00
	VIRGINIA.		1,914	.....	.....	\$228,673 00	\$18,600 00	\$11,230 00	\$258,503 00	\$135 05
2401	Aquia Creek to Richmond...	753	.....	.....	22,700 00	.....	5,400 00	258 00	.....	111 71
2429	Richmond to Staunton.....	138	.....	.....	13,815 00	.....	1,600 00	25 00	.....	111 71
2433	Richmond to Petersburg.....	241	.....	.....	7,350 00	.....	1,000 00	.....	.....	341 66
2443	Petersburg to Appomattox de-		.....	.....	.....	.....	.....	.....	.....	.....
2445	p t.....	102	.....	.....	4,372 00	.....	800 00	.....	.....	50 70
2445	Petersburg to City Point.....	12	.....	.....	450 00	.....	.....	.....	.....	37 50
2448	Petersburg, Va., to Weldon,		.....	.....	.....	.....	.....	.....	.....	.....
2452	North Carolina	64	.....	.....	19,200 00	.....	1,800 00	100 00	.....	329 57
2470	Hicksford, Va., to Gaston, N. C.	20	.....	.....	1,000 00	.....	.....	.....	.....	50 00
2518	Portsmouth, Va., to Weldon,		.....	.....	.....	.....	.....	.....	.....	.....
2533	North Carolina	80	.....	.....	8,000 00	.....	.....	113 00	.....	101 41
2622a	Manasses Station to Piedmont.	33	.....	.....	1,414 00	.....	600 00	141 00	.....	65 33
2724	Winchester to Harper's Ferry.	32	.....	.....	2,743 00	.....	.....	40 00	.....	86 89
2728	Lynchburg to Big Lick	55	.....	.....	2,357 00	.....	600 00	75 00	.....	55 12
	Alexandria to Gordonsville...	97	.....	.....	4,850 00	.....	600 00	25 00	.....	56 44
	Richmond to Staunton river...	90	.....	.....	3,858 00	.....	800 00	50 00	.....	52 31
	NORTH CAROLINA.		823	.....	.....	92,109 00	13,200 00	827 00	106,136 00	128 91
2801	Raleigh to Weldon.....	99	.....	.....	9,900 00	.....	1,600 00	.....	.....	116 16
2825	Weldon to Wilmington	162	.....	.....	48,600 00	.....	4,000 00	800 00	.....	329 63
	SOUTH CAROLINA.		261	.....	.....	58,500 00	5,600 00	800 00	64,900 00	248 66
3101	Columbia to Branchville.....	69	.....	.....	6,900 00	.....	.....	305 00	.....	104 42
3102	Columbia to Greenville C. H..	1614	.....	.....	10,337 50	.....	1,200 00	156 00	.....	72 51

D.—Railroad service as in operation on the 30th June, 1854—Continued.

Number of route.	Termini.	Distance. Miles.	Total distance in each State. Miles.	Number of trips per week.	Annual pay.	Annual pay in each State.	Annual cost of route agencies.	Annual cost of mail- messenger service.	Total annual cost.	Annual cost per mile.	Total average cost per mile in each State.
3103	Columbia to Charlotte.....	117	.....	6	\$8,400 00	.....	.....	\$120 00	.....	\$72 82	.....
3108	Camden to Junction.....	39	.....	7	1,950 00	.....	.....	200 00	.....	55 12½	.....
3153	Kingsville to Wilmington.....	171	.....	7	40,612 50	.....	\$3,000 00	452 00	.....	257 69	.....
3227	Newbury C. H. to Laurens C. H.	31	.....	6	1,328 57	.....	.....	.....	.....	42 85	.....
3131	Charleston, S. C., to Augusta, Ga.....	139	.....	14	33,012 50	.....	3,000 00	641 00	.....	263 69	.....
			727½	.....	.....	\$102,541 07	7,200 00	1,874 00	\$111,615 07	.....	\$153 50
GEORGIA.											
3250	Savannah to Macon.....	192	.....	14	33,600 00	.....	.....	60 00	.....	175 31	.....
3264	Milledgeville to Gordon.....	17	.....	7	999 00	.....	.....	.....	.....	58 76	.....
3299	Macon to Atlanta.....	102	.....	7	12,750 00	.....	.....	130 00	.....	126 27	.....
3312	Augusta to Atlanta.....	174½	.....	14 }	.....	.....	.....	.....	.....	.....	.....
	Branch. Camack to Warrenton	33	.....	7 }	41,700 00	.....	3,000 00	205 00	.....	251 92	.....
3318	Double Wells to Washington.	184	.....	6	803 57	.....	.....	.....	.....	42 86	.....
3320	Union Point to Athens.....	39½	.....	6	2,000 00	.....	.....	.....	.....	50 63	.....
3365	Atlanta to West Point.....	92	.....	7	18,400 00	.....	1,500 00	160 00	.....	218 04	.....
3366	Atlanta, Ga., to Chattanooga, Tenn.....	140	.....	6	14,000 00	.....	2,400 00	384 00	.....	119 88	.....
3374	Kingston to Rome.....	18½	.....	6	930 00	.....	.....	90 00	.....	54 83	.....
3411	Fort Valley to Oglethorpe.....	22	.....	7	1,100 00	.....	.....	.....	.....	50 00	.....
3415a	Macon to Columbus.....	99	.....	7	9,900 00	.....	.....	100 00	.....	101 01	.....

3424	Millin to Augusta.....	54	.....	7	6,750 00	.....	.....	.....	.....	.....	.....	125 00
3442	Milledgeville to Eatonton	23	.....	7	1,150 00	.....	.....	.....	.....	.....	.....	50 00
			996 1/2	.....	.....	144,082 57	6,900 00	1,129 00	152,111 57	.....	152 70	
MICHIGAN.												
3703	Detroit to Chicago, Ill.....	282 1/2	.....	12	42,375 00	.....	3,200 00	714 00	.....	163 81		
3716	Toledo, Ohio, to Chicago, Ill..	242	.....	12	36,300 00	.....	2,400 00	970 00	.....	163 92		
	Branch, Monroe to Adrian.....	36	.....	6	1,800 00	.....	.....	.....	.....	50 00		
	Branch, Constantine to White Pigeon.....	4	.....	6	200 00	.....	.....	.....	.....	50 00		
	Branch, Elkhart to Gosben....	10	.....	6	428 00	.....	.....	.....	.....	42 86		
3705	Detroit to Pontiac.....	25 1/2	.....	6	1,275 00	.....	.....	.....	.....	50 00		
			600	.....	.....	82,378 00	5,600 00	1,684 00	89,662 00	.....	149 44	
INDIANA.												
3903	Madison to Indianapolis.....	87	.....	6	7,451 00	.....	800 00	40 00	.....	95 00		
3905	Indianapolis to Terre Haute..	73	.....	6	7,300 00	.....	800 00	336 00	.....	65 00		
3908	Indianapolis to Lafayette.....	64	.....	6	5,486 00	.....	600 00	100 00	.....	96 00		
3974 1/2	Edinburgh to Martinsville.....	25	.....	6	750 00	.....	.....	.....	.....	30 00		
3975	Edinburgh to Rushville.....	37	.....	6	1,671 00	.....	.....	30 00	.....	46 00		
3988	Edinburgh to Vincennes.....	52	.....	6	2,228 50	.....	600 00	10 00	.....	54 00		
4097	Jeffersonville to Edinburgh....	77	.....	6	3,300 00	.....	1,200 00	120 00	.....	60 00		
4130	Knightstown to Shelbyville....	26	.....	6	1,040 00	.....	.....	40 00	.....	42 00		
4134	Lawrenceburg to Indianapolis..	90 1/2	.....	6	6,769 00	.....	1,200 00	441 00	.....	93 00		
4119	New Albany to Michigan City..	215	.....	6	9,214 00	.....	1,800 00	65 00	.....	52 00		
			746 1/2	.....	.....	45,209 50	7,000 00	1,182 00	53,391 52	.....	71 57	
ILLINOIS.												
4153 1/2	St. Louis, Mo., to Blooming- ton, Ill.....	156	.....	6	13,670 00	.....	2,800 00	120 00	.....	106 34		
4154	Springfield to Naples	55	.....	6	2,914 00	.....	.....	110 00	.....	55 00		

D.—Railroad service as in operation on the 30th June, 1854—Continued.

Number of route.	Termini.	Distance. Miles	Total distance in each State.	Number of trips per week.	Annual pay.	Annual pay in each State.	Annual cost of route agencies.	Annual cost of mail- messenger service.	Total annual cost.	Annual cost per mile.	Total average cost per mile in each State.
4310a	Chicago to Rock Island.....	182	Miles.	7	\$23,150 00	.....	\$1,600 00	\$713 00	.....	\$139 90	.....
4312a	Chicago to Warren.....	145	.....	6	14,500 00	.....	1,600 00	679 00	.....	115 71	.....
4312b	Junction to St. Charles.....	6½	.....	.....	278 00	.....	.....	.....	.....	42 76	.....
4312c	Junction to Aurora.....	13	.....	6	557 00	.....	.....	.....	.....	42 76	.....
			557½	.....	.....	\$55,069 00	6,000 00	1,622 00	\$62,691 00	.....	\$98 73
	WISCONSIN.										
	Milwaukee to Stoughton.....	80	80	6	2,400 00	2,400 00	.....	.....	2,400 00	30 00	30 00
	KENTUCKY.										
5106	Louisville to Lexington.....	94	94	14	8,840 00	8,840 00	1,600 00	.....	10,440 00	111 06½	111 06½
	TENNESSEE.										
5429a	Memphis to La Grange.....	50	.....	7	2,500 00	.....	.....	.....	.....	50 00	.....
5473	Loudon, Tenn., to Dalton, Ga.	82	.....	6	6,150 00	.....	1,200 00	212 40	.....	92 22	.....
5475	Nashville to Chattanooga.....	131½		6	12,750 00		1,800 00	25 00		110 84	
			263½			21,400 00	3,000 00	237 40			93 50

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Railroad service as in operation on 30th September, 1854.

Number of route.	Termini.	Distance.	Total distance in each State.	Number of trips per week.	Annual pay.	Annual pay in each State.	Annual cost of route agencies.	Annual cost of mail messenger service.	Total annual cost.	Annual cost per mile.	Total average cost per mile in each State.
		Miles.	Miles.								
92	MAINE. Railroad junction at Danville to Waterville.....	55	.....	12	\$5,500 00	.....	\$800 00	\$346 00	\$6,646 00	\$120 84	
95	Mechanics' Falls to Buckfield.....	12	.....	6	570 00	.....	.....	.....	570 00	47 50	
96	Portland to Portsmouth, N. H.	52 1/2	.....	12	7,837 50	.....	1,177 00	190 00	9,204 00	177 00	
97	Portland to Augusta, branch Brunswick to Bath	73	.....	12	7,300 00	.....	800 00	325 00	8,425 00	115 41	
100	Portland to the State line, Vt.	48	.....	12 } 6 }	16,500 00	.....	1,400 00	209 00	18,109 00	108 43	
129	Leeds's Station to Livermore Falls	20	.....	6	857 00	.....	.....	16 00	873 00	43 65	
132	Portland to Hollis.....	18	.....	6	771 00	.....	.....	.....	771 00	43 00	
			397	.....	.....	\$39,335 00	4,177 00	1,086 00	44,598 00	.....	\$112 33
	NEW HAMPSHIRE.										
201	Concord to Lowell, Mass.....	50	.....	18	6,429 00	.....	761 00	.....	7,190 00	143 80	
202	Concord to Portsmouth	47	.....	12	2,043 00	.....	.....	.....	2,043 00	47 47	
206	Concord to Wells River, Vt....	52	.....	12 } (*) }	7,125 00	.....	1,352 00	.....	8,477 00	89 23	

207	Concord to White River junction	69	.....	.....	843 00	.....	9,343 00	114 00
208	Branch Franklin to Bristol	13	.....	.....	216 00	.....	1,516 00	58 30
209	Concord to Bradford	26	.....	.....	.....	.....	750 00	50 00
215 ^a	Contocook Village to Hillsboro' Bridge	15	.....	.....	.....	.....	1,200 00	42 86
239	Manchester to Henniker	28	.....	.....	.....	.....	536 00	42 88
241	Great Falls to South Milton	12½	.....	.....	.....	86 00	1,486 00	53 00
251	Dover to Alton Bay	28	.....	.....	.....	.....	686 00	42 88
277	Nashua to East Wilton	16	.....	.....	248 00	.....	1,298 00	61 80
	Wells River to Littleton	21	.....	.....	.....	.....	34,525 00	.....
			420	31,019 00	3,420 00	86 00		82 22
VERMONT.								
401	Windsor to Burlington	117	.....	.....	1,667 00	396 00	13,763 00	117 63
411	Burlington to Rouse's Point, N. Y.	53½	.....	.....	800 00	553 00	6,703 00	125 30
446	Rutland to North Bennington	52	.....	.....	433 00	350 00	6,200 00	109 00
456	Branch to Bennington	5	.....	.....	.....	.....	6,656 00	109 00
460	White River junction to St. Johnsbury	61	.....	.....	966 00	461 00	3,273 00	131 00
462	Bellows Falls to Windsor	25	.....	.....	396 00	377 00	15,135 00	126 00
469	Bellows Falls to Burlington	120	.....	.....	1,635 00	.....	3,160 00	123 54
	Brattleboro' to Bellows Falls	24	.....	.....	584 00	176 00	54,890 00	.....
			457½	46,096 00	6,481 00	2,313 00		119 97
MASSACHUSETTS.								
601	Boston to Portsmouth, N. H.	53½	.....	.....	1,223 00	.....	9,547 00	163 66
602	Branch to Marblehead	4	.....	.....	.....	.....	11,040 00	133 40
	Boston to So. Berwick junction	74½	.....	.....	2,100 00	125 00		
	Branch, Boston to Medford	5½	.....	.....	.....	.....		
	Branch, Rollinsford to Gt. Falls	3	.....	.....	.....	.....		

* 12 trips a weeks 4 months, and 6 trips a week 8 months. † 12 trips a week 3 months, and 6 trips a week residue.

E.—Railroad service as in operation on 30th September, 1854—Continued.

Number of route.	Termini.	Distance.	Total distance in each State.	Number of trips per week.	Annual pay.	Annual pay in each State.	Annual cost of route agencies.	Annual cost of mail-messenger service.	Total annual cost.	Annual cost per mile.	Total average cost per mile in each State.
603	Boston to Lowell.....	Miles. 26	Miles.	18 }	\$3,600 00	.....	\$317 00	.....	\$3,917 00	\$135 07	
604	Branch, Winchester to Woburn.....	3	.....	6 }		.....					
	Boston to Fitchburg.....	50½	.....	18 }		.....					
	Branch, Cambridge to Lexington.....	8	.....	6 }	7,425 00	.....	694 00	\$584 00	8,703 00	121 29	
605	Branch, junction to Watertown.....	4	.....	6 }		.....					
	Branch, So. Acton to Feltonville.....	9	.....	6 }		.....					
	Boston to Worcester.....	46	.....	19 }		.....					
	Branch, Natick to Saxonville.....		.....	6 }		.....					
	Branch, South Framingham to Framingham.....	20	.....	6 }	12,528 00	.....	544 00	795 00	13,867 00	198 01	
	Branch, South Framingham to Milford.....		.....	6 }		.....					
	Branch to Millbury.....		.....	6 }		.....					
606	Boston to Providence.....	45	.....	18 }		.....					
	Branch to Dedham.....	5	.....	12 }	5,718 00	.....	327 00	167 00	6,212 00	107 11	
	Branch to Seekonk.....	8	.....	6 }		.....					
607	Dedham to Blackstone.....	25½	.....	6 }		.....					
	Branch, North Wrentham to Medway.....	4	.....	6 }	1,447 00	.....			1,447 00	49 05	
608	Boston to Plymouth.....	37½	.....	12 }	4,650 00	.....	224 00		4,874 00	130 00	
608a	South Abington to Bridgewater.....	7½	.....	6 }	200 00	.....			200 00	20 57	
615	Salem to Lawrence.....	20	.....	6 }	713 00	.....			713 00	35 65	
618	Lawrence to Manchester.....	28	.....	12 }	1,400 00	.....	234 00		1,634 00	58 35	
622	Lowell to Lawrence.....	14	.....	12 }	700 00	.....		69 00	769 00	54 93	

[illegible]

E.—Railroad service as in operation on 30th September, 1854—Continued.

Number of route.	Termini.	Distance.	Total distance in each State.	Number of trips per week.	Annual pay.	Annual pay in each State.	Annual cost of route agencies.	Annual cost of mail-messenger service.	Total annual cost.	Annual cost per mile.	Total average cost per mile in each State.
933	Middletown to depot on New Haven, Hartford, and Springfield railroad	10	.....	12	\$500 00	.....	.....	\$50 00	\$550 00	\$55 00	
937	New Haven to New London	50	.....	12	4,285 00	.....	\$600 00	698 00	5,583 00	111 60	
939	New Haven to Springfield, Mass	63½	.....	19	15,833 00	.....	1,038 00	595 00	17,466 00	275 04	
940	New Haven to Tariffville	45	.....	12 }							
		7½	.....	6 }	2,571 50	.....	.....	200 00	2,771 50	52 80	
941	New Haven to New York	78	.....	19	19,500 00	.....	1,800 00	513 00	21,813 00	279 65	
942	Bridgeport to Winchester	62	.....	12	3,100 00	.....	700 00	105 00	3,905 00	63 00	
943	Bridgeport to State line, Mass., and branch to Pittsfield	121	.....	6	5,143 00	.....	1,200 00	88 00	6,431 00	53 00	
959	South Norwalk to Danbury	23½	.....	12	1,307 00	.....	.....	305 00	1,612 00	68 59	
			633	.....	.....	\$64,274 50	6,538 00	3,436 00	74,248 50	.....	\$116 37
1001	New York to Dunkirk	460	.....	19	92,000 00	.....	6,300 00	3,612 00	101,912 00	221 55	
1002	Branch Sufferns to Pierpont	18	.....	6	772 00	.....	.....	.....	772 00	42 86	
1003	New York to Albany	144	.....	19	32,400 00	.....	4,500 00	5,078 00	42,878 00	297 76	
	New York to Chatham Four Corners	130½	.....	6	5,592 86	.....	1,200 00	1,325 00	8,209 86	62 90	
1008	New York to Greenport	101		6	4,950 00		1,200 00	2,186 00	8,276 00	81 94	

NEW YORK.

POSTMASTER GENERAL.

689

1034	Newburgh to Chester.....	19			814 00																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
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E.—Railroad service as in operation on 30th September, 1854—Continued.

Number of route.	Termini.	Distance.	Total distance in each State.	Number of trips per week.	Annual pay.	Annual pay in each State.	Annual cost of route agencies.	Annual cost of mail-messenger service.	Total annual cost.	Annual cost per mile.	Total average cost per mile in each State.
		Miles.	Miles.								
	NEW JERSEY.										
9001	New York to Brunswick.....	36	.....	19	\$13,838 00	.....	\$1,200 00	\$1,125 00	\$16,163 00	\$*449 00	
9003	New York to Hackettstown...	63	.....	12	5,400 00	.....	600 00	289 00	6,289 00	100 00	
9020	Elizabethport to Easton.....	64	.....	12	5,486 00	.....	600 00	1,047 00	7,133 00	111 00	
9054	New Brunswick to Philadelphia	54	.....	19	20,250 00	.....	1,800 00	2,980 00	25,030 00	+463 50	
9069	Trenton to Easton.....	50	.....	12	2,500 00	.....	.....	548 00	3,048 00	61 00	
9079	Burlington to Mt. Holly.....	7	.....	12	300 00	.....	.....	.....	300 00	43 00	
9085	Philadelphia to South Amboy.	72	.....	7	7,379 00	.....	.....	586 00	7,965 00	111 00	
9110	Camden to Atlantic City	59	.....	14	800 00	.....	.....	.....	.....	.....	
			405	.....	.....	\$55,953 00	4,200 00	6,575 00	66,728 00	.....	\$190 50
	PENNSYLVANIA.										
9200	Philadelphia to Columbia.....	70	.....	14	13,800 00	.....	1,177 00	159 00	15,811 00	190 50	
9210	Philadelphia to Pottsville.....	13½	.....	.....	675 00	.....	.....	.....	.....	.....	
9223	West Chester to Philadelphia.	97	.....	12	14,218 00	.....	1,600 00	3,262 00	19,080 00	196 50	
9297	Port Clinton to Tamaqua.....	33	.....	12	750 00	.....	.....	100 00	850 00	26 00	
9302	Lancaster to Harrisburg	20	.....	6	858 00	.....	.....	110 00	908 00	48 00	
9310	Columbia to Middletown	37½	.....	14	7,528 00	.....	623 00	198 00	8,346 00	225 00	
9316	York to Harrisburg.....	19	.....	6	815 00	.....	.....	200 00	1,015 00	53 50	
9328	Harrisburg to Chambersburg.	27	.....	14	5,400 00	.....	848 00	35 00	6,283 00	233 00	
9336	Harrisburg to Pittsburg.....	52	.....	7	5,200 00	.....	.....	50 00	5,250 00	101 00	
9352	Chambersburg to Hagerstown.	250	.....	14	50,000 00	.....	3,600 00	3,699 00	57,299 00	229 00	
		10	.....	6	943 00	.....	.....	22 00	965 00	96 50	

2433	Richmond to Petersburg.....	24½	.....	14	7,350 00	.....	1,000 00	.....	8,350 00	341 66
2443	Petersburg to Prospect.....	110	.....	6	4,715 00	.....	800 00	.....	5,515 00	50 13
2445	Petersburg to City Point.....	12	.....	6	450 00	.....	.....	.....	450 00	37 50
2448	Petersburg to Weldon.....	64	.....	14	19,200 00	.....	1,800 00	100 00	21,100 00	329 51
2452	Hicksford to Gaston.....	20	.....	7	1,000 00	.....	.....	.....	1,000 00	50 00
2470	Portsmouth to Weldon.....	80	.....	7	8,000 00	.....	.....	113 00	8,113 00	101 41
2518	Manasses Station to Piedmont.	33	.....	6	1,414 00	.....	600 00	141 00	2,155 00	65 33
2533	Winchester to Harper's Ferry	32	.....	6	2,743 00	.....	.....	40 00	2,783 00	86 89
2622a	Lynchburg to Newbern.....	106	.....	6	4,525 00	.....	600 00	380 00	5,505 00	51 94
2724	Alexandria to Gordonsville....	97	.....	7	4,850 00	.....	600 00	25 00	5,475 00	56 44
2728	Richmond to Clover Depot....	95	.....	6	4,672 00	.....	800 00	50 00	4,922 00	51 08
			877.31	.....	.....	94,834 00	13,200 00	1,132 00	109,166 00	123 00
NORTH CAROLINA.										
2801	Raleigh to Weldon.....	99	.....	7	9,900 00	.....	1,600 00	.....	11,500 00	116 16
2825	Weldon to Wilmington.....	162	.....	14	48,600 00	.....	4,000 00	800 00	53,400 00	329 63
			261	.....	.....	58,500 00	5,600 00	800 00	64,900 00	248 66
SOUTH CAROLINA.										
3101	Columbia to Branchville.....	69	.....	7	6,900 00	.....	.....	305 00	7,205 00	104 42
3102	Columbia to Greenville C. H..	161½	.....	6	10,337 50	.....	1,200 00	156 00	11,693 50	72 51
3103	Columbia to Charlotte.....	117	.....	6	8,400 00	.....	.....	120 00	8,520 00	72 82
3108	Camden to Junction.....	39	.....	7	1,950 00	.....	.....	200 00	2,150 00	55 12
3153	Kingsville to Wilmington.....	171	.....	7	40,612 50	.....	3,000 00	452 00	44,064 00	257 69
3227	Newberry C. H. to Laurens C. H.....	31	.....	6	1,328 57	.....	.....	.....	1,328 57	42 85
3131	Charleston to Augusta.....	139	.....	14	33,012 50	.....	3,000 00	641 00	36,653 50	.....
			727½	.....	.....	102,541 07	7,200 00	1,874 00	111,615 07	153 50
GEORGIA.										
3250	Savannah to Macon.....	192	.....	14	33,600 00	.....	.....	60 00	33,660 00	175 31
3264	Milledgeville to Gordon.....	17	.....	7	999 00	.....	.....	.....	999 00	58 76

MICHIGAN.											
13003	Detroit to Chicago	282½	.....	.....	12	42,375 00	.....	3,600 00	714 00	46,689 00	165 23
13005	Detroit to Pontiac.....	25½	.....	.....	6	1,093 00	.....	.....	.....	1,093 00	42 86
13018	Toledo to Chicago.....	242	.....	.....	12	36,300 00	.....	2,400 00	970 00	39,670 00	163 92
13019	Monroe to Adrian.....	36	.....	.....	6	5,400 00	.....	.....	.....	5,400 00	150 00
13020	White Pigeon to Three Rivers	13	.....	.....	6	325 00	.....	.....	.....	325 00	25 00
13021	Elkhart to Goshen	10	.....	.....	6	428 00	.....	.....	.....	428 00	42 86
			609	.....	.....	.....	85,921 00	6,000 00	1,684 00	93,605 00	.....
					.....	.....	.....	.....	.....	.....	153 70
INDIANA.											
14500	Lawrenceburg to Indianapolis.	90½	.....	.....	6	6,767 00	.....	1,400 00	482 00	8,651 00	96 00
14501	Indianapolis to Dayton.....	108	.....	.....	12	13,500 00	.....	700 00	309 00	14,509 00	134 00
14502	Indianapolis to Madison.....	87	.....	.....	6	4,350 00	.....	800 00	140 00	5,290 00	61 00
14503	Indianapolis to Lafayette.....	64	.....	.....	6	6,400 00	.....	700 00	167 00	7,267 00	113 00
14504	Indianapolis to Terre Haute..	73	.....	.....	6	7,300 00	.....	800 00	486 00	8,586 00	117 00
14505	Indianapolis to Peru.....	78½	.....	.....	6	3,925 00	.....	800 00	25 00	4,750 00	60 00
14512	Franklin to Martinsville.....	26	.....	.....	6	780 00	.....	.....	.....	780 00	30 00
14513	Edinburgh to Rushville	37	.....	.....	6	1,671 00	.....	.....	50 00	1,721 00	49 00
14514	Knightstown to Shelbyville...	26	.....	.....	6	1,040 00	.....	.....	40 00	1,080 00	42 00
14515	Jefferson to Edinburgh.....	77	.....	.....	6	3,300 00	.....	1,200 00	120 00	4,620 00	60 00
14516	New Albany to Michigan City.	135	.....	.....	6 }	.....	.....	.....	.....	.....	.....
		153	.....	.....	12 }	22,050 00	.....	2,800 00	136 00	25,086 00	87 00
14529	Evansville to Vincennes.....	52	.....	.....	6	2,229 00	.....	600 00	10 00	2,839 00	54 00
14533	Cincinnati to Seymour	22	.....	.....	24 }	.....	.....	1,400 00	150 00	12,675 00	142 00
		67	.....	.....	12 }	11,125 00	.....	.....	.....	.....	.....
			1,096	.....	.....	.....	84,439 00	11,200 00	2,115 00	97,854 00	.....
					.....	.....	.....	.....	.....	.....	89 33
ILLINOIS.											
13253	Decatur to Naples.....	95	.....	.....	6	4,072 00	.....	.....	110 00	4,182 00	44 02
13264	Joliet to St. Louis.....	245	.....	.....	12	24,500 00	.....	2,200 00	120 00	26,820 00	109 47
13438	Chicago to Rock Island.....	184	.....	.....	12	15,772 00	.....	1,600 00	893 00	18,265 00	99 26
13439	Chicago to Scales Mound.....	159	.....	.....	12	15,900 00	.....	1,600 00	679 00	18,179 00	114 33
13440	Mendota to Decatur.....	220	.....	.....	6	9,429 00	.....	600 00	.....	10,029 00	46 95
13441	Chicago to Urbana	129	.....	.....	6	5,509 00	.....	800 00	.....	6,309 00	48 90

E.—Railroad service as in operation on the 30th September, 1854—Continued.

Number of route.	Termini.	Distance.	Total distance in each State.	Number of trips per week.	Annual pay.	Annual pay in each State.	Annual cost of route agencies.	Annual cost of mail-messenger service.	Total annual cost.	Annual cost per mile.	Total average cost per mile in each State.
13442	Chicago to Dixon.....	Miles. 99	Miles.	6	\$2,970 00	.....	.....	.....	\$2,970 00	\$30 00	.....
13443	Chicago to West Wheeling....	25	.....	6	625 00	.....	.....	.....	625 00	25 00	.....
13450	Mendota to Salisbury.....	72	.....	6	2,160 00	.....	.....	.....	2,160 00	30 00	.....
13526	Junction to Mendota.....	65	.....	6	1,950 00	.....	.....	.....	1,950 00	30 00	.....
			1,293	.....	.....	\$73,887 00	\$6,800 00	\$1,802 00	91,489 00	.....	\$71 53
13662	Milwaukie to Madison.....	96	96	6	4,800 00	4,800 00	.....	.....	4,800 00	50 00	50 00
8202	Louisville to Lexington.....	94	.....	12	8,100 00	.....	1,600 00	.....	.....	103 20	.....
8215	Lexington to Covington.....	97½	.....	14	9,766 00	.....	1,600 00	764 00	.....	124 20	.....
			191½	.....	.....	17,866 00	3,200 00	764 00	21,830 00	.....	113 90
8455	Nashville to Chattanooga.....	159	.....	7	25,000 00	.....	1,800 00	25 00	.....	168 71	.....
8496	Loudon to Dalton.....	82	.....	6	6,150 00	.....	1,200 00	212 40	.....	92 22	.....
			241	.....	.....	31,150 00	3,000 00	237 40	34,387 40	.....	142 68

	MISSOURI.	37	37	7	1,480 00	1,480 00	1,480 00	1,480 00	40 00	40 00
9030	St. Louis to Pacific.....	37	37	7	1,480 00	1,480 00	1,480 00	1,480 00	40 00	40 00
	MISSISSIPPI.									
7302	Jackson to Brandon.....	134	.....	7	1,350 00	.....	.....	.....	100 00	.....
7304	Jackson to Vicksburg.....	46	.....	7	4,600 00	.....	.....	.....	100 00	.....
7318	Bolton's Depot to Raymond....	8	.....	12	600 00	.....	.....	.....	75 00	.....
7319	Grand Gulf to Port Gibson....	8	.....	6	400 00	.....	.....	.....	50 00	.....
			754	.....	.....	6,950 00	.....	.....	.....	92 00
	LOUISIANA.									
7705	New Orleans to Carrollton.....	7	.....	6	200 00	.....	.....	.....	264	.....
7706	New Orleans to Terre au Boeuf.	16	.....	6	300 00	.....	.....	.....	18 00	.....
			23	.....	.....	500 00	.....	.....	.....	21 67

WM. H. DUNDAS,
Second Assistant Postmaster General.

F.

Steamboat service as in operation on the 30th of September, 1854.

States.	Number of route.	Termini.	Distance. <i>Miles.</i>	Total distance in each State.	Number of trips per week.	Annual pay.	Annual pay in each State.	Remarks.
New Hampshire . . .	267	Weir's Bridge to Centre Harbor, and Wolfboro' and Meredith Village.	30	.....	6	\$300 00	.....	During navigation.
	274	Alton Bay to Centre Harbor.....	30	60	6	133 00	\$433 00	During navigation.
Massachusetts	649	New Bedford to Nantucket	65	65	6	3,000 00	3,000 00	From 25th November to 25th March, from Wood's Hole to Nantucket only by steamboat and packet, alternately.
Rhode Island.....	801 ^a	Providence to Newport.....	28	28	.....	500 00	500 00	12 trips per week so long as steamers run so frequently, and 6 trips per week residue of year.
New York.....	1004	New York to Stonington, Ct.....	125	.....	6	7,000 00	.....	During navigation.
	1005	New York to Norwich, Ct.....	142	.....	6	1,200 00	.....	Part of a coach contract.
	1110	White Hall to Plattsburg.....	95	.....	12	4,800 00	.....	Part of a railroad contract.
	1120	Port Kent to Burlington, Vt.....	8	.....	6	110 00	.....	
	1365	Ithaca to Cayuga.....	40	.....	6	1,799 00	14,909 00	
Ohio	10270	Cincinnati to Maysville, Ky.....	64	.....	6	4,000 00	.....	During navigation.
	10335	Sandusky to Toledo.....	60	.....	6	2,400 00	.....	

Virginia.....	10340	Portsmouth to Cincinnati.....	123	.....	3	2,000 00	8,400 00	
	2401 pt	Washington, D. C., to Aquia Creek, Va.....	54½	247	14	16,300 00		
	2440	Richmond to Norfolk.....	148	.....	6	3,625 00		\$15 the round trip, with
	2464	Baltimore, Md., to Yorktown, Va.....	200	.....	1	880 00		\$100 additional for mail messenger service.
	2467	Norfolk to Hampton.....	18	.....	6	1,600 00		
	2468	Norfolk, Va., to Baltimore, Md.....	200	.....	6	9,000 00		\$250 additional per month
					{ 3	5,250 00		for 3 additional weekly
	2469	Norfolk to Eastville.....	57	.....	2	1,700 00		trips, from December 1,
	2576	Wheeling to Parkersburg.....	93	.....	3	2,500 00		1853, to March 15, 1854.
	2726	Norfolk to New York.....	300	.....	1	520 00		
	2730	Norfolk to Mathews C. H.....	60	.....	2	600 00		
				1,230½			41,975 00	
North Carolina.....	2830a	Greenville to Washington.....	25	.....	6	1,200 00		
	2868	Franklin Depot to Plymouth.....	108	.....	3	893 00		
	3008	Wilmington to Smithville.....	28	.....	1	500 00		
				161			2,593 00	
South Carolina.....	3222	Charleston, by Beaufort, to Savannah, Ga.....	160	.....	1	1,300 00		
	3226	Charleston to New York, N. Y.....	720	.....	2	500 00		
				880			1,800 00	
Georgia.....	3251	Savannah to Pilatka, Fla.....	358	.....	2	7,450 00		
	3413	Savannah to New York, N. Y.....	800	.....	1	4,160 00		
	3425	Philadelphia, Pa., to Savannah, Ga.....	800	.....	1	4,160 00		
				1,958			15,770 00	
Florida.....	3509	Pilatka to Mellonville.....	130	.....	1	1,560 00		
	3540	Bainbridge to Apalachicola.....	206	.....	.....	11,500 00		3 trips a week 8 months,
								and 2 trips a week 4 months.
	3557	Charleston, S. C., to Pilatka, Fla.....	300	.....	2	2,600 00		
				636			15,660 00	
Michigan.....	13007	Detroit to Sault St. Marie.....	351	.....	1	200 00		During navigation.
	13008	Detroit to Cleveland.....	120	.....	6	2,500 00		During navigation—offer
								of department.
	13094	Sault St. Marie to Ontonagon.....	300	.....	3	1,030 00		During navigation.
				771			3,730 00	

F.—Steamboat service as in operation on the 30th of September, 1854—Continued.

700

REPORT OF THE

States.	Number of route.	Termini.	Distance.	Total distance in each State.	Number of trips per week.	Annual pay.	Annual pay in each State.	Remarks.
Illinois.....	13436	Chicago to Milwaukee.....	Miles. 88	Miles. 88	6	\$5,000 00	 \$5,000 00	During navigation.
Wisconsin.....	13668	Milwaukee to Sheboygan.....	50	 50	6	1,500 00	1,500 00	
Iowa.....	9436	Keokuk to Rock Island, Ill.....	150	 150	6	7,800 00	 7,800 00	\$25 per trip.
Missouri.....	8812	St. Louis to Keokuk, Iowa.....	206	 206	6	15,000 00	 15,000 00	During navigation.
Kentucky.....	8201 5102 5103	Louisville to Cincinnati, Ohio..... Louisville to New Orleans, La..... Louisville to St. Louis, Mo.....	142 1,416 650	 2,208	7 7 7	4,800 00 38,360 00 70,000 00	 113,160 00	Service engaged by the trip; pay estimated.
Alabama.....	7002 7059	Stockton to Mobile..... Chattanooga to Decatur.....	34 195	 229	7 7	10,355 00 19,500 00	 29,855 00	Under coach contract.
Mississippi.....	7309 7311 7312	Vicksburg to New Orleans, La..... Vicksburg to Napoleon, Ark..... Vicksburg to Yazoo City.....	170 230 110	 510	3½ 2 3	33,680 00 10,400 00 4,500 00	 48,580 00	
Arkansas.....	7511 7512	Napoleon to Aberdeen..... Napoleon to Memphis, Tenn.....	165 203	..... .....	3 2	13,000 00 10,000 00		

7513	Aberdeen to Batesville.....	272	.....	.....	2	16,666 00	39,666 00
7701	New Orleans to Mobile, Ala.....	183	.....	640	7	35,000 00	.....
7702	New Orleans to Shreveport.....	670	.....	.....	3	7,680 00	.....
7703	New Orleans to Covington.....	60	.....	.....	3	800 00	.....
7717	Donaldsonville to New Iberia.....	95	.....	.....	3	7,295 00	.....
7851	New Orleans, La., to Indianola, Texas.....	540	.....	1,008	2	45,000 00	50,775 00
7852	New Orleans to Brazos Santiago.....	550	.....	.....	.....	15,000 00	.....
7854	Galveston to Houston.....	80	.....	.....	3	10,920 00	.....
12500	San Francisco to Sacramento City.....	125	.....	1,170	6	15,000 00	70,920 00
12501	San Francisco to Stockton.....	125	.....	.....	6	9,970 00	.....
12529	Sacramento City to Marysville.....	54	.....	.....	6	2,000 00	.....
12700	Astoria to Portland.....	120	.....	304	2	9,000 00	26,970 00
12708	Portland to Oregon City.....	13	.....	.....	2	1,100 00	.....
				133			10,100 00
				13,142½			528,096 00

Pay estimated.

1 additional weekly trip
nine months of the year,
between New Orleans
and Galveston, 400 miles.
2 trips a month.

WM. H. DUNDAS,
Second Assistant Postmaster General.

OFFICE OF AUDITOR OF TREASURY FOR P. O. DEPARTMENT,
November 13, 1854.

SIR: The rapid and steady extension of the operations of the Post Office Department over the whole surface of our Federal Union and its Territories, has occasioned, during the fiscal year ended the 30th June last, a corresponding increase of the labors of this office. In submitting, as I now have the honor to do, the following report of the results of those labors, I have the satisfaction to state that they have been performed with a cheerful promptitude and industry on the part of the gentlemen of the several divisions of the office, which, while it entitles them to this grateful acknowledgment, has also secured the punctual and faithful discharge of the functions of the office, and, I trust, given satisfaction as well to the department as the public.

The balance standing to the credit of the Post Office Department on the books of this office on the 1st of July, 1853, was..... \$356,029 65

The receipts for the fiscal year ended 30th June, 1854, were..... 6,255,586 22

The amount placed in the treasury for the service of the Post Office Department, being grants in aid of the revenue, under acts of 3d March, 1847, '51, and '53, and 31st May and 27th July, 1854, was..... 2,736,748 96

Making a total revenue of..... \$9,348,364 83

The expenditures for the fiscal year ended 30th June, 1854, were..... \$8,577,424 12

Add the amount of accounts closed by bad debts, including those mentioned in my last annual report, \$30,826 17
Also compromised debts.. 290 68

31,116 85

From this deduct the balance of credit accounts closed by suspense..... 254 77

30,862 08

8,608,286 20

Leaving to the credit of the Post Office Department on 1st July, 1854..... \$740,078 63

Excess of expenditures of all kinds over the revenue of the year, exclusive of receipts and payments for foreign postages, and of the balance on hand 1st July, 1853, and of the amount drawn from the treasury \$2,366,224 82

CONTRACTORS' ACCOUNTS.

The average number of accounts of contractors and others engaged in carrying the mails, settled in each quarter was—

On regular routes.....	4,863
On special routes.....	3,314
Payments on recognitions of service.....	595

The whole amount passed to the credit of contractors and others for transportation, was..... \$5,503,593 58

Amounts charged to contractors :

To damages, over-credits, &c.....	31,363 30
“ fines.....	30,095 27
“ deductions.....	80,391 32
Amount actually paid for transportation during the year.....	5,401,382 50
Of which there were paid for regular service in the United States.....	4,859,386 83
Route agents.....	177,816 00
Supply of special offices.....	147,177 69
Transportation in previous years.....	33,340 26
River mails.....	86,660 00

FOREIGN MAIL TRANSPORTATION.

New York to Bremen.....	\$183,333 26
New York to Havre.....	137,500 00
Charleston to Havana.....	50,000 00
Across the isthmus of Panama, and agents.....	126,212 41
New Orleans to Vera Cruz.....	44,950 00
Total.....	541,995 67

POSTMASTERS' ACCOUNTS.

The number of quarterly accounts of Postmasters which have been examined and adjusted during the year is as follows :

In 3d quarter of 1853.....	22,773
In 4th quarter of 1853.....	22,305
In 1st quarter of 1854.....	22,768
In 2d quarter of 1854.....	22,949
Total.....	90,795

A surplus of commissions, after deducting postmasters' compensation and the necessary incidental expenses, has accrued at the following offices respectively :

New York city.....	\$82,284 84	Madison, Wis.....	\$871 81
Chicago, Ill.....	6,711 21	Louisville, Ky.....	493 38
Washington, D. C....	2,611 49	Providence, R. I.....	224 46
Toledo, O.....	1,107 44	Worcester, Mass.....	154 20

Detroit, Mich.....	\$126 94	Philadelphia, Pa.....	\$392 68
Troy, N. Y.....	87 10	Norwich, Ct.....	187 46
Springfield, Mass.....	20 12	Newark, N. J.....	120 22
Boston, Mass.....	15,923 29	Buffalo, N. Y.....	119 75
Harrisburg, Pa.....	3,045 37	Montgomery, Ala....	36 75
Baltimore, Md.....	1,203 37	Albany, N. Y.....	86 09
Hartford, Ct.....	1,082 56	Wilmington, Del.....	58 95
Brooklyn, N. Y.....	508 97		
Total surplus commissions.....			<u>117,458 45</u>

The aggregate balances due from postmasters in the adjustment of their quarterly accounts for the year, were as follows:

1st July to September 30, 1853.....	\$813,194 37
1st October to December 31, 1853.....	853,865 68
1st January to March 31, 1854.....	929,000 72
1st April to June 30, 1854.....	892,730 54
Total.....	<u>3,488,791 31</u>

COLLECTION OF POST OFFICE REVENUE.

During the fiscal year the collection division of this office had in charge the following number of accounts of present postmasters.....

23, 546

Of late postmasters who became late in fiscal year—

	Debit.	Credit.	
1846	4	305	
1847	11	311	
1848	8	333	
1849	34	552	
1850	69	899	
1851	105	635	
1852	964	1,748	
1853	2,603	3,847	
1854	3,862	3,757	
			<u>20,047</u>

Total accounts of late and present postmasters in hand.....

43,593

The number of changes of postmasters reported to this office by the Appointment Office of the Post Office Department, (occasioned by removals, resignations, and giving new bonds,) which required the final adjustment of their respective accounts, was.....

7,619

The following is a correct classification of the offices now in operation, viz:

Draft offices	1,059
Deposite offices	1,109
Special and mail messenger offices, and those partially so....	4,164
Collection offices.....	17,214
Total offices in operation.....	<u>23,546</u>

The whole amount collected by contractors on orders sent from this office was.....	\$928,250 83
Amount collected by special drafts, &c.....	1,990 19
	930,241 02

The balance on account of late postmasters, who went out of office or whose accounts terminated between July 1, 1845, and June 30, 1853, unsettled on 1st of July, 1853, increased by estimates since last report, amounted to.....	\$216,548 97
Amount of these accounts placed in suit during the last fiscal year, and still uncollected.....	15,408 55

Leaving due on these accounts 1st July, 1853.....	201,140 42
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Of this sum there have been collected during the year:	
Without suit.....	\$148,386 39
With suit.....	10,062 84
Credited on vouchers.....	4,159 83
Closed by suspense.....	377 19
Charged to bad debts.....	390 41
	163,376 66

Leaving uncollected on 30th June, 1854, on accounts prior to July 1, 1853, and not in suit.....	37,763 76
Add amount <i>in suit</i> , and uncollected on June 30, 1854, of accounts placed in suit prior to 30th June 1853....	52,085 31

Leaving an aggregate of indebtedness of late postmasters, on accounts prior to 1st of July, 1853.....	89,849 07

Amount due by late postmasters, who became late during the fiscal year ending 30th June, 1854.....	\$303,994 46
Collected within the year.....	\$244,112 17
Credited on vouchers.....	311 01
Closed by suspense.....	143 95
	244,567 13

Balance on these accounts uncollected on 30th June, 1854.....	59,427 33
Of which sum this amount is in suit.....	1,555 89

Leaving a balance on these accounts still uncollected, and not in suit, to 30th June, 1854, of.....	57,871 44

Aggregate indebtedness by late postmasters from July 1, 1845, to July 1, 1853.....	\$216,548 97
Same from July 1, 1853, to July 1, 1854.....	303,994 46

Total amount for collection from July 1, 1845, to July 1, 1854.....	520,543 43

Collected and closed during the fiscal year:

On accounts prior to 1st July, 1853..... \$163,376 66
On accounts of year ending 30th June, 1854 244,567 13

Total collections in the year on both classes of accounts \$407,943 79

Balance yet due the United States on accounts from 1st July, 1845, to 30th June, 1854, by postmasters who became late during that time, and not in suit..... \$95,797 14
Same in suit..... 53,641 20

Total balance due United States on said accounts..... 149,438 34

Classification of balances still due as above, and not in suit:

For the year ending June 30, 1846.....	\$54 08	
For the year ending June 30, 1847.....	116 08	
For the year ending June 30, 1848.....	52 11	
For the year ending June 30, 1849.....	246 62	
For the year ending June 30, 1850.....	580 43	
For the year ending June 30, 1851.....	1,311 74	
For the year ending June 30, 1852.....	3,188 09	
For the year ending June 30, 1853.....	32,376 55	
For the year ending June 30, 1854.....	57,871 44	
		<u>\$95,797 14</u>

Balances for the same years in suit:

For the year ending June 30, 1846.....	\$3,025 77	
For the year ending June 30, 1847.....	728 06	
For the year ending June 30, 1848.....	1,220 03	
For the year ending June 30, 1849.....	1,890 48	
For the year ending June 30, 1850.....	1,167 80	
For the year ending June 30, 1851.....	2,870 04	
For the year ending June 30, 1852.....	3,618 91	
For the year ending June 30, 1853.....	37,564 22	
For the year ending June 30, 1854.....	1,555 89	
		<u>53,641 20</u>

Total amount due on late postmasters' accounts to 30th June, 1854..... 149,438 34

From this amount should be deducted the aggregate balance due from late postmasters in California and Oregon, and which is now in process of cancellation by the allowance of vouchers for compensation and extraordinary but necessary incidental expenses of their offices, heretofore suspended for want of commissions to pay them, under the provisions of the 4th and 5th sections of an act entitled "An act making provision for the postal service in the State of California and in the Territories of Oregon and Washington," approved July 27, 1854, as follows:

Amount of these accounts not in suit.....	\$50,873 71	
Amount of these accounts in suit.....	55,668 06	
		\$106,541 77

Leaving a final balance still due the United States on accounts of late postmasters from 1st July, 1845, to 30th June, 1854, of.....		42,896 57
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CREDIT BALANCES.

Balances due to late postmasters from 1st July, 1845, to 30th June, 1853.....	\$173,794 38	
Which has been increased during the year by the allow- ance of extra commissions, under the act of 3d March, 1851.....		7,477 92

Total	181,272 30	
Of which there has been paid or settled during the year.	66,030 39	

Leaving still due the late postmasters at the close of the year on accounts prior to 30th June, 1853.....	115,241 91	
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Balances due to late postmasters for the fiscal year end- ing 30th June, 1854.....	\$71,662 54	
Of which there has been paid or settled during the year	15,770 93	

Leaving still due on accounts to 30th June, 1854.....	55,891 61	
---	-----------------------	--

AGGREGATE OF BALANCES REMAINING DUE TO LATE POSTMASTERS.

From July 1st, 1845, to June 30th, 1853.....	\$115,241 91	
From July 1st, 1853, to June 30th, 1854.....	55,891 61	
	171,133 52	

Deduct from this the amount of the final balance due the United States by late postmasters from 1st July, 1845, to 30th June, 1854, as above.....	42,896 57	
---	-----------------------	--

And it appears that the indebtedness of the United States to late postmasters, who have held office since the 1st of July, 1845, exceeded, on the 30th June, 1854, the aggregate amount of their indebtedness to the United States by the sum of.....	\$128,236 95	
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SUITS.

Eighty-four suits were brought during the fiscal year ended 30th June, 1854, for the recovery of balances, &c., due on or before the 1st July, 1853, amounting in the aggregate to.....	\$41,584 50	
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<i>Six</i> suits were brought during the same period for balances, &c., that were due on or after the 1st July, 1853, amounting to.....	\$11,565 66
<i>Ninety</i> suits were therefore brought during the year, for the recovery of.....	53,150 16
<i>Twenty-four</i> of the above suits have been concluded, and the balances, &c., for which they were commenced, collected, amounting to.....	\$17,551 76
Collections were also made during the year in <i>twenty</i> suits, which were commenced prior to 1st July, 1853, amounting to.....	2,050 08
Total collections by suit in the year.....	19,601 84
Collections have also been made since the close of the year, in <i>one</i> suit which was commenced prior to July 1st, 1853, amounting to.....	\$108 56
And in <i>ten</i> suits which were commenced since and during the last fiscal year, amounting to.....	979 27
Total collections since the close of the year.....	1,087 83
Total collections by suit.....	20,689 67
<i>One</i> of the above suits commenced since 1st July, 1853, has been discontinued and the balance charged to bad debt account, amounting to.....	11 74

Among the results accomplished by this office during the fiscal year may be mentioned the facts, that it has adjusted and paid the quarterly accounts of 8,000 contractors and other agents of the department engaged in carrying the mail, making an aggregate of 32,000. It has adjusted and settled the quarterly accounts of 23,546 postmasters, or an aggregate of 94,184; or a grand aggregate of 126,184 accounts of both classes, during the last fiscal year.

The settlement of these accounts has involved the receipt of 122,653 letters and packages, the transmission of 70,785 letters and circulars in reply, and the issuance of 65,787 collection orders in favor of contractors, and 13,092 error notices to postmasters.

By comparison of these statistics with those of former years, some idea may be gained of the rapidity with which the labors of this office have increased.

The voluminous statistical tables of the foreign mail service have been furnished to you in detail; and as they will be treated as a part of the Postmaster General's annual report, it is deemed unnecessary to encumber this report with them.

The tabular statement herewith, marked A, exhibits the expenditures of the Post Office Department, under their several heads, for the year ending 30th June, 1854.

That marked B, exhibits the receipts of the Post Office Department for the same period.

That marked C, exhibits the number of letters, circulars, handbills, newspapers and pamphlets, received and delivered by carriers, and amount received for carriage, in the cities of New York, Boston, Philadelphia, Baltimore and New Orleans, under the regulations established in pursuance of the 10th section of the "Act to reduce and modify the rates of postage in the United States, and for other purposes," approved March 3d, 1851.

That marked D, exhibits the amounts actually credited for the transportation of the mails by States, and the amount of postages collected on the same.

In conclusion, I beg to bring to your notice, again, the unsafe condition of the accounts, vouchers, and other papers of this office, as well as the great inconvenience and discomfort of the clerks, for want of sufficient room in the General Post Office building, for the safe-keeping of the former, and the suitable accommodation of the latter.

Respectfully submitted:

WM. F. PHILLIPS, *Auditor.*

Hon. JAMES CAMPBELL,
Postmaster General.

A.—Statement exhibiting the expenditures of the Post Office Department, under their several heads, for the fiscal year ended June 30, 1854.

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REPORT OF THE

Object.	Third quarter, 1853.	Fourth quarter, 1853.	First quarter, 1854.	Second quarter, 1854.	Total under each head.	Aggregate amount.
Compensation to postmasters.....	\$390,485 68	\$401,597 81	\$464,426 08	\$451,198 72	\$1,707,708 29	
Extra compensation, act 3d March, 1851.....	25,094 50	5,479 84	2,870 14	1,355 49	34,799 97	
Ship, steamboat, and way letters.....	4,303 29	4,898 34	4,583 39	5,764 65	19,549 67	
Transportation.....	1,236,383 75	1,380,272 71	1,425,286 61	1,359,439 43	5,401,382 50	
Wrapping paper.....	8,831 21	9,187 72	12,455 60	9,989 13	40,463 66	
Office furniture.....	907 52	1,777 02	1,201 17	2,043 65	5,929 36	
Advertising.....	8,020 64	21,435 68	62,417 61	11,989 64	103,863 57	
Mail bags.....	10,147 23	16,712 54	10,045 84	11,955 96	48,861 57	
Blanks.....	16,467 53	20,178 70	17,596 76	23,933 82	78,176 81	
Mail locks, keys, and stamps.....	3,342 95	2,273 82	2,286 15	2,167 85	10,070 77	
Mail depredations, and special agents.....	11,787 44	11,635 44	12,500 29	12,846 34	48,769 51	
Clerks for offices.....	129,810 01	185,018 55	156,863 32	159,446 38	631,138 26	
Official letters received by postmasters.....	94 30	149 35	99 64	104 03	447 32	
Postage stamps.....	6,618 50	2,432 50	2,284 50	2,329 07	13,664 57	
Stamped envelopes.....	11,356 70	12,022 78	11,612 32	12,426 97	47,418 77	
Stamps redeemed, old issue.....	.....	.....	.....	5 65	5 65	
Stamps returned to department, old.....	36 00	.....	10 00	.....	46 00	
Payments to letter-carriers.....	31,977 39	32,876 85	35,426 61	35,687 67	135,968 52	
Compilation of post routes.....	.....	.....	.....	1,000 00	1,000 00	
Miscellaneous payments.....	23,646 93	54,885 43	42,967 70	32,117 90	153,617 96	
Miscellaneous, account British mails.....	.....	.....	*94,541 39	.....	94,541 39	
	1,919,311 57	2,162,835 08	2,359,475 12	2,135,802 35	.....	\$8,577,424 12

* This sum is in payment of the ascertained balances, including premium on exchange, arising from British postages, and found to be due to the United Kingdom on account of the 4th quarter 1852, and 1st quarter 1853.

Respectfully submitted:

AUDITOR'S OFFICE POST OFFICE DEPARTMENT, November 7, 1854.

WM. F. PHILLIPS, Auditor.

B.

Statement exhibiting the receipts of the Post Office Department, under their several heads, for the fiscal year ended June 30, 1854.

	Third quarter, 1853.	Fourth quarter, 1853.	First quarter, 1854.	Second quarter, 1854.	Total under each head.	Aggregate amount.
Letter postage.....	\$723,057 94	\$795,222 56	*\$399,599 69	†\$359,230 31	\$3,277,110 50	
Stamps sold.....	499,511 55	533,749 62	560,545 03	552,669 82	2,146,476 02	
Newspapers and pamphlets.....	133,329 15	147,074 78	170,065 72	155,678 53	606,148 18	
Fines.....	5 00	7 50	.....	5 00	17 50	
Receipts on account of emolument.....	9,736 77	35,614 20	18,811 24	17,790 25	81,952 46	
Receipts on account of letter-carriers.....	31,977 39	32,876 85	35,426 61	35,687 67	135,968 52	
Receipts on account of damages, failing contractors.....	.....	.....	200 00	200 00	400 00	
Receipts on account of dead letters.....	.....	.....	4,346 11	.....	4,346 11	
Miscellaneous receipts.....	280 87	1,362 54	369 40	1,154 12	3,166 93	
	1,397,898 67	1,545,908 05	1,689,363 80	1,622,415 70	.....	\$6,255,586 22

* In the item "letter postage," for the first quarter 1854, is included the sum of \$51,614 78, ascertained to be due to the United States from the kingdom of Prussia, arising from foreign postages for the fourth quarter 1852, and second and third quarters 1853; also the sum of \$39,777 86, ascertained to be due to the United Kingdom for the third quarter 1853.

† In same item, for second quarter 1854, is embraced the sum of \$36.393 54, due to the United States from the kingdom of Prussia, arising from foreign postages for the first and fourth quarters 1853.

Respectfully submitted:

AUDITOR'S OFFICE POST OFFICE DEPARTMENT, November 7, 1854.

WM. F. PHILLIPS, Auditor.

C.—Statement of the number of letters, circulars, handbills, newspapers, and pamphlets received and delivered by carriers, and amount received for carriage, in the cities of New York, Philadelphia, Boston, Baltimore, and New Orleans, under the regulations established in pursuance of the tenth section of the act entitled "An act to reduce and modify the rates of postage in the United States, and for other purposes," approved March 3, 1851.

Places.	Number of letters.	Number of circulars and handbills.	Number of newspapers & pamphlets.	Total number of letters, circulars, newspapers, and pamphlets.	Total amount received for carriage.
New York.....	3,233,154	224,762	470,020	3,927,936	\$69,360 79
Philadelphia.....	1,868,923	38,217	318,268	2,215,408	39,351 97
Boston.....	850,071	27,486	43,861	921,418	8,878 28
Baltimore.....	765,149	34,430	130,677	930,256	14,434 02
New Orleans.....	100,495	12,886	7,374	120,755	2,176 83
	6,817,792	337,781	970,200	8,115,773	134,201 89

Respectfully submitted:

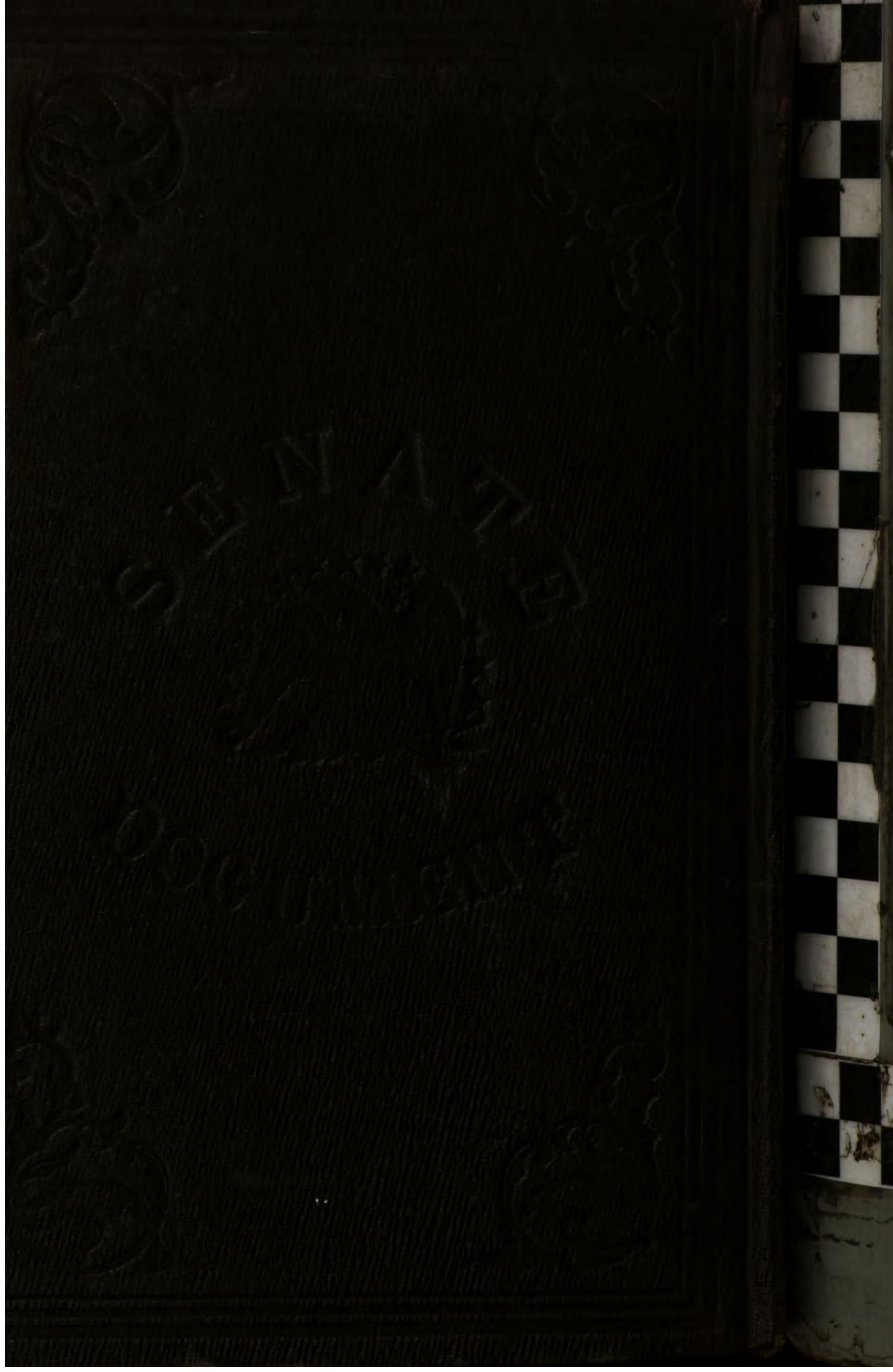
WM. F. PHILLIPS, Auditor.

D.—The following table shows the amounts actually credited for the transportation of the mails by States and Territories, and the amount of postages collected in the same.

States and Territories.	Letter postage.	Newspaper postage.	Stamps sold.	Aggregate.	Transportation.
Maine.....	\$75,342 64	\$14,779 64	\$52,637 48	\$142,759 76	\$82,368 44
New Hampshire.....	44,618 70	10,274 72	32,896 29	87,789 71	47,384 90
Vermont.....	44,670 01	11,452 37	31,477 22	87,599 60	67,681 39
Massachusetts.....	245,843 25	30,124 17	236,198 78	512,166 20	154,566 80
Rhode Island.....	25,604 12	4,215 96	26,935 68	56,755 76	13,739 17
Connecticut.....	76,590 94	18,459 67	74,171 08	169,221 69	80,427 05
New York.....	750,353 35	101,079 40	490,722 67	1,342,155 42	438,602 97
New Jersey.....	64,940 90	10,427 50	26,647 51	102,015 91	78,414 72
Delaware.....	9,432 70	2,020 24	6,363 04	17,815 98	9,412 00
Pennsylvania.....	298,942 78	64,206 99	191,479 69	554,629 46	242,593 34
Maryland.....	90,325 04	21,873 27	77,954 90	193,153 21	190,999 73
District of Columbia.....	19,277 50	3,521 99	17,515 84	40,315 33	
Virginia.....	96,964 11	26,745 97	84,828 65	208,538 73	223,085 01
North Carolina.....	30,701 14	11,187 21	27,245 83	69,134 18	163,806 11
South Carolina.....	41,612 47	8,303 04	40,387 08	90,302 59	127,111 67
Georgia.....	69,326 95	16,730 38	62,261 22	148,318 55	220,256 21
Florida.....	10,685 60	2,095 38	7,003 19	19,784 17	59,187 56
Alabama.....	53,580 60	13,342 36	35,289 75	102,212 71	212,606 44
Mississippi.....	42,250 03	12,750 09	21,197 74	76,197 86	102,248 67
Texas.....	35,126 54	8,473 58	15,353 67	58,953 79	162,201 78
Kentucky.....	64,197 85	14,914 98	47,643 68	126,786 51	178,265 21
Michigan.....	63,149 18	12,980 08	40,351 46	116,480 72	132,680 67
Wisconsin.....	51,881 81	15,163 68	23,388 71	90,434 20	61,199 12
Tennessee.....	46,417 68	12,946 60	37,101 45	96,465 73	106,666 75
Missouri.....	63,511 36	10,476 00	37,995 89	111,983 25	152,311 04
Illinois.....	121,898 58	26,752 40	72,210 82	220,861 80	207,111 23
Indiana.....	91,896 49	22,453 40	46,657 21	161,007 10	118,440 64
Arkansas.....	16,576 17	4,933 03	5,682 80	27,192 00	81,177 15
Iowa.....	32,172 17	6,568 17	15,963 63	54,703 97	44,039 09
California.....	174,693 30	14,270 64	67,224 40	256,188 34	163,077 83
Ohio.....	238,209 75	48,150 59	151,926 54	438,286 88	449,479 80
Louisiana.....	84,197 58	14,827 96	41,119 26	140,144 80	97,959 72
Oregon Territory.....	8,860 82	1,145 97	487 84	10,494 63	45,820 90
Minnesota Territory.....	2,696 26	809 18	2,297 23	5,802 67	7,423 74
New Mexico Territory.....	524 34	144 74	236 82	905 90	29,249 45
Utah Territory.....	1,406 68	63 85	380 00	1,850 53	2,545 00
Nebraska Territory.....	228 20	43 72	.....	271 92	
Washington Territory.....	1,254 18	176 52	97 35	1,528 05	
	3,189,961 77	601,915 44	2,149,332 40	5,941,209 61	4,554,141 30
Add Prussian and Bremen postages.....	\$88,417 95				
Deduct miscellaneous entries.....	1,269 22				
	87,148 73				
Add miscellaneous entries.....	.....	4,232 74			
Deduct miscellaneous entries.....	.....	.....	2,856 38		
	3,277,110 50	606,148 18	2,146,476 02		

Respectfully submitted:

WM. F. PHILLIPS, Auditor.



Senate documents

Bd.: [83.] 1854, P. 2 = Doc. Nr. 1 = Congress 33, Sess. 2

Washington, DC 1854

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